THE VETERINARY JOURNAL

AND

Annals of Comparative Pathology.

AUGUST, 1891.

## INFLUENZA.*

BY PRINCIPAL WILLIAMS, F.R.S.E., NEW VETERINARY COLLEGE, EDINBURGH.

THE term Influenza may be applied to three forms of epizootic disease affecting the horse, viz.—Catarrhal Fever, Epizootic Cellulitis, and Epizootic Pleuro-pneumonia.

Catarrhal Fever and Epizootic Cellulitis are, in my opinion, varying manifestations of the same disease, whilst the Pulmonary Fever is most probably another disease altogether.

I shall first give a brief history of Influenza as described by the older writers.

Amongst the older writers we find the disease described by Apsyrtus, a Greek veterinarian, who flourished in the fourth and fifth centuries. His description is very good indeed. He says: "When the horse sickens from Fever he carries his head heavily, and as if immovable; the eyes are swollen, and he can scarcely open them. The lips and all the body are flaccid, the testicles pendent, and the breath and body have a burning heat; he fixes his limbs, and is insensible to blows, and when compelled to walk he is every moment likely to fall."—(Fleming's *Animal Plagues*) Other writers of this period refer to it under the term "Fever of the Horse."

It prevailed in Italy in the fourteenth century (Diëckerhoff), and a plague amongst horses is described—A.D. 1328—by an Arabian Chief of Yemen, in 909 of the Hegira, and entitled Kitab-el-akouâl, but from his description it must have differed from the present

* Read at the Annual Meeting of the National Veterinary Association held at Doncaster on July 21st.

disease, being much more suddenly fatal. It is thus described: "The epizooty that attacked the horses of Yemen in the year of the Hegira 728 was of the worst character, and was rapidly mortal. No one knew how to recognise or characterise it, and in no book or hippiatric treatise of past ages could any distinctive traces of it be found mentioned. No efficacious remedy could be devised to cure it. The animal attacked was not allowed to benefit by medical or any other kind of treatment. This malady had not, like other diseases, any premonitory symptoms. It suddenly struck the animal, which perhaps would be eating, and all at once something escaped from its nostrils like mucus; for a moment the horse's head was drooping on the ground, from which he had no longer strength to raise it, and then he fell dead. Sometimes he struggled for a few seconds before he expired. The malady first began in the kingdom of Hadramût, then it was propagated into Yemen, and as far as Mecca, killing an incalculable number of horses. Mules also died in great numbers, but not so extensively as the horses."—(Fleming's *Animal Plagues.*) If this is the disease referred to by Dieckerhoff, it is presumable that he has confounded what seems to be Anthrax with Influenza; at the same time, it must be confessed that occasionally horses die with scarcely any premonitory symptoms from Influenza even at the present day.

Solleysell, a French veterinary author of great repute, observed and described it in 1648, and Kanold in 1711.

During the eighteenth century a wide-spread febrile disease in horses was observed, and which was doubtless similar to Pink-eye. Haveman described it in 1796 under the term *Faule Pferde-seuche* (Putrid Fever Disease), and an extensive outbreak occurred in 1804-5.

In 1848-9 I remember an extensive outbreak in England of a disease having most of the symptoms witnessed in Edinburgh in the winter 1890-91.

### Epizootic Cellulitis, or Pink-eye.

The term Pink-eye seems to be an importation from America—from one of the inconstant symptoms of the disease being redness of one or both eyes, and swelling of the eyelids.

Some suppose that it is a new disease, and that it first appeared in America in 1872, the actual seat of its outbreak being Toronto, Canada, where it appeared on October 1st, 1872; in nine days it had attacked nearly all the horses in the city, and carriages could not be had at any price. On October 18th it had reached Montreal, and was prevalent throughout Canada. On October 14th it had reached Buffalo, 17th Rochester, 22nd Boston, New York, Brook-

lyn and Jersey City, 27th Philadelphia, 28th Washington, and had been witnessed in Nova Scotia as early as October 13th.

One remarkable circumstance in connection with this outbreak, and which, if correct, disposes of the "contagion only" theory of its origin, is related by Mr. Greene, M.R.C.V.S., of St. John's, N.B. He says, "I was always under the impression that the Influenza was both contagious and infectious till the late outbreak; since then I have altered my views with regard to the contagious and infectious nature of that disease. One among several facts which I could mention will bear me out on this question.

"During the month of July, 1872, a horse had been put to grass on Partridge Island, in the Bay of Fundy. This island is three miles distant from this city. No other horse had been near the island from the date of his landing up to the time of the outbreak in St. John's, N.B.; and on the 15th or 16th of October, which was only two or three days after the first case was reported in this city, the horse on the island was affected with the most virulent form."

In 1871-2 Influenza was in London of a severe but not very fatal type.

The last outbreak of the disease seems to have appeared in London, Leeds, Manchester and Edinburgh in October, 1890. It disappeared from the College practice in March, 1891, and was succeeded by the pulmonary or chest form of Influenza.

So much briefly, then, for the history of the disease commonly known as Influenza, under which title, as already stated, are included at least three epizootic manifestations in this country, namely—*a.* Catarrhal Fever; *b.* Pink-eye; and *c.* Epizootic Pulmonary Fever, or Pleuro-pneumonia Equina.

Various writers look upon the three as separate diseases, whilst others consider Pink-eye to be a modification or an irregular manifestation of Catarrhal Fever, there being prominent symptoms common to both. So long as I can remember, the ordinary manifestations of the disease were swelling of the eyes and eyelids, swelling, but no great pain, in the limbs, with cough, more or less hurried breathing, and discharge from the nostrils. As years went on the catarrhal symptoms (cough, etc.) became less prominent, but up to the present outbreak cough and irritation of the respiratory mucous membrane still remained to some extent, whilst the pain in the limbs and the great muscular depression seemed to have gradually increased in severity. From these facts I am disposed to arrange the disease as an irregular manifestation of Catarrhal Fever, but distinct from the Chest Influenza, *i.e.*, Epizootic Pleuro-pneumonia of the horse, and that it may be defined to be a specific fever, due, in my opinion, to a microbe,

and having a short but as yet undetermined period of incubation. It reaches its height in about three days after the manifestation of the first symptoms; and then gradually subsides, and convalescence is established in from ten to fourteen days in medium attacks.

It is characterised by a great and sudden prostration of strength, elevation of temperature and other signs of fever, with pain in and swelling of the extremities; generally redness of the conjunctivæ, swelling of the eyelids; and sometimes Cranalgia; often colicky pains; congestion of the lungs, and in some rare instances an involvement of the brain and its membranes, expressed by frenzy or coma.

The rate of mortality differs very widely,—from 1 to 35 per cent.

In fatal cases death is due to congestion and gangrene of the lungs, *ante-mortem* clots in the heart and great vessels, enteritis, and extreme prostration of the system generally.

### Causes.—Etiology.

Some writers maintain that it arises from contagion only, but there are many facts against this exclusive view. 1st. Its sudden and simultaneous occurrence in various parts of a district or city. For example, a place may be entirely free from the disease one day, and upon the next outbreaks will occur in many and widely separated spots in that place. 2nd. Its occurrence in isolated places where contact with diseased animals is out of the question; for example, the first appearance of the disease in 1880 was at a farm in the Lothians at least one mile and a half from a railway station, and during the spring, when all the horses were kept at home ploughing. In a few days it was in Edinburgh and in many centres; but whilst I am convinced that it occurs as a malarial disease, I am equally convinced that it is highly contagious and infectious, and can be conveyed from diseased to healthy animals with great facility. Diëckerhoff says it may be readily communicated to healthy horses by the intravenous or subcutaneous injection of warm blood taken from a diseased animal, and Mr. Archibald Robinson, F.R.C.V.S., Greenock, says that it can be transmitted by the stallion which has had the disease months before, to the mare by the act of coition.

A purely infectious disease like the Pleuro-pneumonia of the ox follows the great lines of commerce, and can be traced from place to place with a certain degree of exactitude, but a miasmatic disease, which may afterwards become infectious or contagious, cannot be followed from place to place. I am, therefore, forced to the conclusion that, like Roman and Typhoid Fevers in man, this

disease, arising as it does from the entrance of a microbe into the animal system, is not due so much to that germ itself, but to certain properties which it has obtained from perhaps unknown conditions of the air; that the germ itself is constant in the surroundings of animals and under ordinary conditions quite innocuous, but let those conditions be altered, the properties of the germ become virulent and infective.

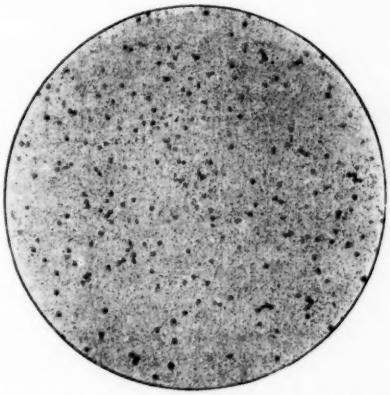

FIG. 1. × 800. Microbes, mostly in pairs (Diplococci).

There are several examples of the so-called spontaneous development of an afterwards contagious disease—Tetanus being one of the most remarkable, and the same may be said of Anthrax, which commonly originates without any contagion, and indeed, when developed in one animal, is only infective to others by inoculation.

Now it appears that the infective properties of this germ are generally developed during or immediately after a long continuance of wet weather. Three outbreaks within my memory have been so ushered, but this is not universal, as some writers state that it occurs in all weathers and in all climates. This might be more correctly said of the catarrhal form than of the other.

The microbes (micrococci), which I have invariably discovered, as shown in the photo-micrographs, have a great tendency to arrange themselves in pairs. (See Fig. 1.) They average about $\frac{1}{24,000}$ of an inch in size, grow freely in gelatine and agar-agar, and are easily stained with the aniline dyes. Further observations and experiments are necessary to confirm or contradict this discovery.

When requested to prepare this paper, I addressed a circular to about a hundred of my professional brethren in various parts, and it is agreed upon by all who honoured me with a reply that the disease attacks all breeds of horses alike, if kept under similar conditions, *i.e.*, when the numbers are kept together, and that it but rarely attacks a horse a second time during the same outbreak.

The symptoms are as follows:—Some degree of lassitude; more or less failure of the appetite; the animal is inclined to be sluggish; his movements are clumsily performed, and he is

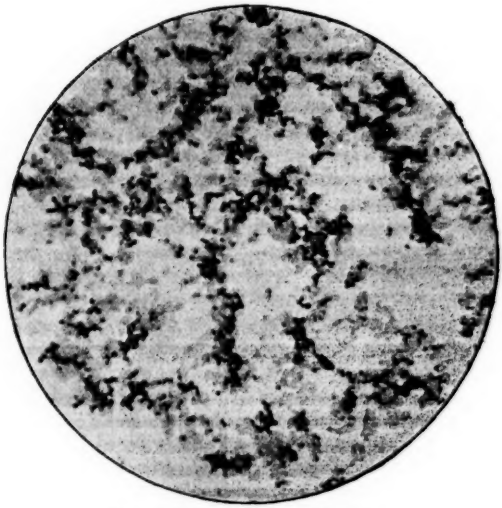

FIG. 2. × 800. Microbes in groups.

inclined to "trip" with his toes; the eyes are heavy, eyelids partly closed, and in many cases some increased redness and some swelling of eyelids with a discharge of tears over the face, and sometimes opacity of the cornea, and fibrinous clots in the aqueous humour of the eye.

If examined at this stage, the temperature may be from 102° to 104°, or even 105°; the pulse from 60 to 70 per minute; respirations not particularly hurried; and if the horse be stopped from all work at this period the severity of the disease may increase, but very slightly, and recovery may be expected in the course of a week or nine days; but if the animal be kept at work, or, even if not working, in a badly ventilated or otherwise improper

stable, the symptoms rapidly increase in severity, the temperature rises to 106°, 107°, or even as high as 108°, the respirations hurried, the pulse increased in frequency to 80 or even 110 beats per minute, is small and sometimes almost too indistinct to be felt by the most practised touch; the animal becomes excessively lame, sometimes immovably so; or he is continually resting or pointing one foot and then the other, as if suffering agony in feet or limbs. In a short period of time the limbs begin to swell, more particularly about the lower joints, *i.e.*, the hocks and knees downwards, and as the swellings become pronounced the pain disappears.

As already stated, there is usually a cough and some degree of roughness of the throat and bronchial tubes, but in the last outbreak in Edinburgh these were conspicuous by their absence.

In some instances intestinal pain, expressed by restlessness, looking round at the flanks, scraping with the feet, and even rolling about, is present shortly after the first manifestation of illness; and in others—and these are the really dangerous fatal ones—well-marked signs of inflammation of the bowels are observable at an early stage, with intermittent action of the heart and total loss of appetite, or even extreme abhorrence of food and occasionally of water.

The bowels are at first normal or slightly constipated; the fæces covered with mucus (hence the terms Typhus-mucosa and Muco-enteritis), and their colour frequently indicates an absence of biliary secretion or the presence of altered bile; the rectum is often irritable, and the passage of fæces causes some degree of pain; on the third or fourth day the fæces become pultaceous and often of a brown colour, and later on diarrhœa may occur.

In other cases, including from the third to the sixth day of the disease, serious pneumonic symptoms are observed; there is an extensive exudation into the lung tissue—in fact, what is observable as taking place in the extremities, viz., exudation and swelling, is occurring in the lungs, causing the respiratory movements to become greatly accelerated, but if Gangrene does not set in, indicated by fœtor of the breath or discharge of dark-coloured blood from the nostrils, recovery may still be hoped for.

In other instances, even during convalescence, the pulse, hitherto moderately strong, and all other symptoms passing away, becomes rapidly feeble, and the animal suddenly dies, and on making a *post-mortem* examination, firm clots or thrombi have been found in the heart, lungs, and blood-vessels, and which have stopped the circulation and caused death.

This termination has to be very carefully guarded against, as it may occur in the most promising cases. It is brought about as

follows:—The disease is one which particularly attacks areolar tissue; and inflammation of this tissue, like that of the more firmly fibrous, causes the development of coagulating properties in the blood, and when—added to this coagulative tendency — the heart loses its tone, the blood coagulates in its cavities and blocks the circulation. In other instances horses have died weeks or even months after they have passed through the disease, and *post-mortem* examinations have revealed plugging of the vessels of some important organ.

Another rare complication is witnessed by symptoms of irritation of the brain and its membranes, with effusion into the ventricles and sub-arachnoid space. As this complication manifests itself there will be at first delirium, the eyes staring, the pupils dilated, perhaps complete blindness, with unconscious restlessness, tendency to elevate the head, followed by paralysis commencing in the hind limbs and extending to the whole muscular system, with total blindness, unconsciousness, stertorous breathing, inability to swallow, and loss of voluntary movements: these conditions indicate a rapidly approaching fatal termination. To recapitulate, the symptoms may be briefly stated to be as follows:—

Swelling of eyelids, often with diffuse redness of the conjunctivæ; congestion of the superficial vessels of the eyes, cloudiness of the cornea, and collection of yellowish fibrinous matter or blood-clots in the anterior chambers of the eyes. Sensitiveness to light, eyelids more or less closed, and discharge of tears; but in milder cases the eye symptoms may not be very distinct.

Pulse from 50 or 60 in mild to 100 or even 120 in severe cases.

Temperature from 103° or 104° in mild to 106°, 107°, or even 108° in severe cases. 108° was observed in one case only in the College practice, and ended in recovery. During convalescence the temperature rapidly falls, and in many cases to below the normal –to 99°, and rises to normal—about 101°.

Gait awkward and slow, loss of tone in the muscles, particularly those of limbs, ears, and lips, and sometimes marked weakness in the hind quarters.

The respirations from 15 to 20 in mild to 30 or 40 in grave cases; these, however, are subject to modifications, as in some horses treated at the College we observed the respiration even slower than natural at first, and increasing in frequency during convalescence. In some fatal cases the breath is fœtid for some time before death, and respirations very rapid.

Mucous membrane of the mouth of a venous red colour; tongue dry; fæces at first dry, but on third or fourth day brown and poultice-like in consistence; later on, diarrhœa in some cases.

Limbs slightly or considerably swollen; urine diminished, and

sometimes albuminous, and in some cases of a chocolate colour, and containing broken-down blood-corpuscles.

### Post-Mortem Appearances.

*Heart.*—Congested; sometimes covered with mulberry-coloured spots—petechiæ. Clots of blood in auricles, ventricles, and larger blood-vessels.

*Blood.*—Dark-coloured and viscid; white corpuscles increased in numbers, and many of the red ones broken down.

*Lungs.*—Generally congested; infiltrated with fluid, or filled with blood extravasation, which has undergone decomposition prior to death, and given rise to fœtor of the breath.

*Liver—Kidneys.*—Generally congested. Kidneys sometimes black.

*Connective Tissue*, particularly of the limbs, contains much fluid or semi-coagulated exudate.

*Muscular System.*—Generally pale and flaccid.

*The Brain and its Membranes* congested, and the cranial cavities containing a superabundant quantity of fluid in those cases where frenzy or coma have appeared during life.

*Digestive System.*—Mucous membrane of stomach sometimes congested; bowels inflamed, and occasionally covered with petechial spots; contents generally fluid.

### Mortality.

This seems to have varied during the last outbreak in a most remarkable manner. Some practitioners, who have replied to a circular issued by me for the purpose of obtaining exact data for this paper, record a loss of only 1 to 2 per cent., whilst others return from 5 to 9; and it is reported that some have lost even a greater number. Our loss at the College was under 1 per cent., and at Piershill Barracks, out of a total of 59 treated by Mr. Phillips upon the principles of this College, there were no deaths.

### Treatment.

The first and most important essential in the treatment of the disease is absolute rest as soon as the slightest indication of illness has been observed.

The animal, if possible, should be placed in a cool, well-ventilated, but not cold, loose box, warmly but not too heavily clothed with sheet and hood; and when bandages do not cause irritation the legs should be bandaged. The diet should consist of bran mashes, and a moderate quantity of hay for the first few days, except where a horse has been used to and is fond of a linseed mash. In such a case one pound of well-boiled linseed should be mixed with the mash every night until the bowels are loosened, when, if there be

any signs of diarrhœa, it should be discontinued, and dry corn given. The mashes should be continued until the fever has subsided, and then gradually changed to the horse's ordinary diet. Cold water should be placed within the animal's reach, so that he can satisfy his, often inordinate, thirst night and day. Medicinally but little is required. If there be marked constipation of the bowels, a small dose of medicinal linseed oil with spirits of nitre might be given, but, as a rule, it is better to abstain from administering aperients.

In my "Principles and Practice of Veterinary Medicine" I have written as follows:—"By carefully watching this disease, it will be observed that spontaneous diarrhœa sometimes occurs, which immediately relieves the symptoms. In some cases looseness of the bowels occurs on the second day, to the manifest relief of the animal. But all cases do not terminate thus; and in order to bring about this favourable issue nature has to be copied, and a mild cathartic—say, four drachms of aloes—administered in the earlier stages." Since then the character of the disease has become intensified, and there is a greater tendency to super-purgation if an animal be physicked. Purgatives such as aloes should therefore not be administered.

The box or stable should not be too warm—about 55° Fahr. is the proper temperature. Warmer than this the fever is prolonged. This fact has been brought before my notice by the following circumstance:—At the New Veterinary College I have had three loose boxes specially fitted up with hot-water pipes for the treatment of bronchitis and other affections of the air-passages, and found them of great utility. But the Pink-eye cases put in these boxes did not recover as quickly as those kept in the cooler boxes, the warmer surroundings of the animals preventing the radiation of elevated animal heat.

In mild cases, in addition to what is already indicated, saline medicines are very useful. Nitrate of potash, dissolved in the drinking water, or, where there is a tendency to bowel irritation, hyposulphite of soda. If the bowel complications are attended with great pain, morphia and atropia, subcutaneously injected, were found to give great relief, and seldom required to be repeated. Where the pain in the limbs was very acute, the bromide of potassium in the drinking water proved very useful. We had no occasion to check diarrhœa, as we looked upon it as one of the efforts of nature to expel the virus and its products from the economy, in fact the "critical discharge" of the fever.

When the heart is very feeble, ammon. carb. in ball should be administered two or three times a day. This increases the cardiac power without disturbing the tissue elements and nervous system,

as is the case when alcoholic preparations are given, but all attempts to intensify the reactive processes of nature in getting rid of a virus are, to say the least dangerous, as the stimulant cannot supply the lost energy, while it retards the processes which nature operates without it; for example, alcohol robs the red blood globules of the oxygen, which is so urgently called for—as evidenced by increased respiratory movements—by the tissues, in order to enable them to carry on that metabolism—tissue change—by which the degraded elements are rendered soluble and in a proper condition to be excreted from the body. In addition to this, alcoholics tend to increase the coagulability of the blood by lowering its vitality, and causing the formation of those clots already referred to; but ammonia has a contrary effect on the blood, and tends to diminish coagulative properties and the formation of these fibrinous clots. At the same time it must be clearly understood that, except in cases where the heart's action is very feeble—and feebleness of the circulation, particularly when the blood is in the fibrinous condition, adds most materially to the formation of the clots—even ammonia should not be administered.

Again, when the prostration is great, the patients should be placed in "slings," for, if they lie down they are often unable to rise, particularly if they are heavy cart horses.

When the fever has subsided, as manifested by the return of the temperature to the normal condition, the falling of the pulse, disappearance of pain, etc., it may be necessary in some cases to administer stomachics, such as gentian, nux vomica, ginger, or other aromatic and bitter remedies, to promote the appetite and assist digestion. If, however, the appetite returns naturally, it is best not to interfere.

*External Treatment.*—If the articulations or limbs be very painful, they may be fomented and a soothing liniment afterwards applied. Aconite liniment rubbed over the painful part does very well, and while the respiratory movements are painful, the chest should be enveloped in hot blankets. After these are removed, the chest may be dressed with the above-mentioned sedative liniment, and covered with dry clothing; beyond this, external applications are irritating and injurious.

### Pulmonary Fever.

*Epizootic Pleuro-Pneumonia or Chest Influenza.*—Under the above terms a disease is known, which prevails to a very great extent all over Britain, particularly in the large towns.

It may be defined to be an inflammation of the substance of the lungs and pleural surfaces, preceded and accompanied by an

adynamic form of fever, which lasts from seven days in the milder to double that time in the more severe cases.

It is most probably due to a microbe, the nature of which has as yet not been determined. The disease prevails during all kinds of weather and all seasons. Like Epizootic Cellulitis, it may originate miasmatically, but there are many facts to prove its infectiousness.

*Semiology.*—The primary symptoms are very ofter more or less obscure. The animal is dull, dejected, off its food, performs ordinary labour with difficulty; lassitude, perspiration, and fatigue are easily induced. Examined carefully, the pulse will number from 60 up to 80 per minute—during some seasons 80 has been the common number—and the animal temperature will vary from 103° to 104°. Sometimes there is a cough from the commencement; very often, however, there is no cough during the first three or four days. The extremities and ears are alternately hot and cold; the appetite is almost entirely lost; the alvine and urinary secretions are defective; the visible mucous membranes injected, and frequently of a rusty tinge; in some cases there is a rash in the mouth, the tongue is generally foul, and the abdomen is "tucked up." The animal does not lie down. Auscultation does not reveal much at first; in fact, for three or four days the animal may be said to be suffering from Fever with, out local complications, but at the end of that period a hard, dry-painful cough is now and then heard; the thoracic walls are fixed; the breathing is abdominal; the elbows are turned out, and a line or hollow extends from the ensiform cartilage of the sternum to the anterior spine of the ilium, which denotes that the ribs are fixed, owing to pain within the chest. If the horse is now made to move suddenly, it sometimes emits a grunt or groan; in some instances it groans at each expiration, and if slightly rapped on the chest with the knuckles it will do so with pain; the breathing is catching and short, and auscultation will detect a friction sound. Very commonly the right side only is affected, in some cases the left, and in rare instances both sides.

In the course of the next ensuing two days, the sounds of the chest indicate Pleurisy, Pleuro-pneumonia, or a complication of these with Pericarditis. From the commencement of the manifestation of chest disease, the breathing becomes somewhat hurried, the pulse assuming a hardness of character which it did not possess at first; the number of its beats are not further increased; on the contrary, rapidity of the pulse may decrease as the exudation on the pleural surfaces advances, and it is not at all uncommon for one to witness an increased rapidity of the respiratory movements, gradual condensation of lung tissue, some effusion into the thoracic

cavity, and a diminution in the number of pulsations. If pericardiac complications are present the pulse is marked by a peculiar indistinctiveness and irregularity; the cardiac beat is generally loud and short; the impulse, however, is weak, and the arterial pulsations indistinct.

In some instances the whole body becomes stiff and sore, and the horse is disinclined to move, but stands with its nose extended forwards, nostrils dilated, and fore-legs apart, presenting an appearance of distress, which is heightened by frequent looks at its side, and by attempts to lie down, as if suffering from colicky pains. In such instances the respiratory movements are short, shallow, and much accelerated, numbering 50, 60, or even 80 or more per minute, whereas in the majority of cases they do not number more than 30 per minute, even when auscultation may detect considerable exudation into the lung tissue.

An examination of the respiratory apparatus by percussion and auscultation—the only satisfactory method of diagnosing chest diseases—will enable the practitioner to detect the various changes as they occur.

1. For the first two or three days after attack both percussion and auscultation often give negative results; at the termination of that period percussion over the seat of the pleural inflammation will cause the animal to groan. Auscultation will detect a dry friction sound if the pleura be affected; absence of true respiratory murmur, and the presence of crepitations, large or small, if the lung-substance be involved; a combination of friction sound, and crepitations, if both pleura and lung tissue, and a "*to-and-fro*" rasping friction sound, with more or less palpitation, if the pericardium be involved.

These signs indicate—1st, That the natural pleural secretion is defective, and that the pleural surfaces rubbing on each other cause the friction sound; 2nd, That engorgement of the lung tissue has taken place; and 3rd, That the pericardial secretion is arrested, causing the "*to-and-fro*" sound at the heart.

2. In the course of from one to two days the above abnormal sounds disappear. Auscultation now reveals that in the part affected there is no sound at all, or that a tubular or hollow sound is heard. The absence of sound indicates either that the lung tissue has become impervious to air, or that a considerable effusion of serum has occured into the thoracic cavity. If the former, the absence of sound becomes apparent by degrees only; that is to say, the respiratory sounds become gradually feeble as the consolidated part is approached, showing that at the border of the hepatized tissue the inflammatory process is less advanced. There may be crepitations or tubal sounds, but when the absence

of sound is due to effusion of serum (hydrothorax) the sounds terminate abruptly at a certain distance from the floor of the thorax, the respiratory sounds being louder than natural above the line of termination, and in some instances the presence of fluid in the chest will be indicated by a "dripping sound," as of drops of water falling into a well. The tubal sounds indicate a less degree of consolidation; that air finds ingress into some of the bronchial tubes, but not into the more minute ones and air cells.

This condition may exist for three or more days, and then the crepitations reappear, showing that the exudate is breaking up and becoming gradually removed by absorption; the dull impervious part at the floor of the cavity becoming daily shallower, and the normal sounds slowly returning.

Percussion during the stages of consolidation and effusion produces a dull sound over the diseased part, and increased resonance over the healthy parts of the chest. In all the unaffected portions of the lungs the respiratory murmur is increased.

The "*to-and-fro*" cardiac friction sound also disappears, owing to effusion into the pericardial sac, and reappears as the exudate is removed by absorption.

In some cases the bronchial mucous membrane is considerably involved, when, in addition to the symptoms already described, there will be a more or less rasping cough, a muco-purulent discharge from the nostrils, and perhaps a greater rapidity of the respiratory movements. Most commonly, however, the discharge from the nostrils is a rusty yellowish tinge, more or less viscid in character, but not abundant in quantity, and is indicative of the interstitial seat of the inflammation.

Very often after convalescence has been established the cough becomes more frequent; it, however, loses its painful hacking character, being now louder and stronger. In some instances, more especially if the exudate has been very abundant, a malcondition of the system is induced by the abundance of effete materials in the circulation, removed by absorption from the transformed exudates. This has been compared by Professor Gamgee to the hectic fever of the human being. There is much emaciation, imperfect digestion, capriciousness of the appetite; the hair is easily removed from the mane and tail; irregularity in the surface temperature; and continuance of the increased temperature of the body, as indicated by the thermometer. If this condition of the system be not successfully combated, the respirations again become accelerated and the ribs fixed; there is flapping of the nostrils, which are greatly distended; the animal again discontinues to lie down. Anasarcous swellings may appear

on the chest, abdomen, and the legs, denoting the presence of hydrothorax, to which the animal may eventually succumb in the course of an indefinite period—sometimes in two or three days only, sometimes in as many weeks—or symptoms of farcy or glanders may appear.

*Post-Mortem Appearances.*—In very acute cases, the appearances revealed by a *post-mortem* examination are, intense redness of the pleural surfaces of one or both sides of the chest; the engorgement of the vessels embracing the visceral and parietal surfaces, and some degree of effusion and exudation of lymph. In some instances, the lungs show but little disease, whilst in others patches of inflammation are found throughout their substance. The pericardium and endocardium are generally more or less injected, and the death of the animal at this early stage generally results more from the cardiac complication than the pleural disease. It is but seldom that a case terminates so rapidly, unless the animal be kept at work after it has fallen ill.

If the horse live for two or three days after the pleural symptoms have become manifested, along with the injection of the vessels, an abundant quantity of serum will be effused in the pleural sac, floating in which, and loosely adherent to the pleural surfaces, bands of lymph will be found. These bands of lymph are loose and watery, and the serum is turbid or flocculent. If the horse has lain for some hours after death, and the *post-mortem* is carefully performed, the effusion is clear at its upper and turbid at its lower part.

If the inflammatory process has been less rapid, the lymph is of a more consistent appearance, and forms over the inflamed parts flocculi of various sizes, or a distinct lining varying in thickness, and of a honey-combed appearance; but the lymph in the epizootic form does not possess the firmness, plasticity, and tendency to organisation which is characteristic of that of the sporadic form of the disease. These bands of lymph are sometimes of very rapid formation, and they may even show some trace of organisation in forty-eight hours after attack. The fact is of considerable importance legally, as it is often found that if a horse dies in a week or two after purchase, an attempt is made to compel the seller to refund the purchase-money on the ground that the animal was diseased prior to the date of sale. Old bands of lymph, and such as indicate previous disease, are firm, organised, of a glistening appearance, and unite the opposing surfaces more or less firmly together. New bands of lymph, on the contrary, are soft, watery, and the parts which they may attach together are easily separated.

In some instances, extravasations of blood give the lymph a red

colour. This must not be mistaken for vascularity, as the latter would denote organisation and age.

Examined microscopically, the lymph exhibits the presence of numerous inflammatory corpuscles, oil globules, and ill-developed fibres.

The exudate into the long tissue is also wanting in plasticity, the lung cuts up soft and moist, a whitish fluid oozing from the cut surfaces.

In some cases, where the vital powers have been very low, or where they have become weakened by injudicious treatment, an abundant, turbid, fœtid fluid has been thrown out, partaking much of the character of an unhealthy pus; or abscesses form in the lungs, and in rare instances gangrene of the lungs has occurred.

The pulmonary complication is generally found at the inferior portions of the lung, and in many instances the exudate indicates that the process is wanting in the true character of plastic inflammation.

### Treatment.

The pathology of Chest Influenza leads us to the conclusion that when once established it runs through certain stages, namely, congestion of the vessels, the outpouring of an effusion, and the formation of an exudate. The congestion, effusion, and exudation are determined by the intensity of the preceding fever. If the fever is slight, the local disease will be slight also; if, on the contrary, the fever is severe, the local inflammation will be proportionately grave. During some seasons the disease from its commencement is severe, and then the weakly succumb. But at other times this is not the case, and very few deaths result from the disease; but its character is always rendered more serious by irrational treatment.

The duration of the fever cannot be cut short by any treatment, and attempts to do this are very often the cause of numerous deaths. Its severity, however, is amendable to modification by—

(1.) Complete rest whenever the slightest sign of illness is discoverable.

(2.) By housing the animal in a warm, dry, light, well-ventilated loose box, feeding upon nutritious and easily digested food, and allowing an abundance of cold water to drink.

(3.) By taking special precautions that no draught of cold wind blows upon it; for it must be remembered that cold, more especially cold wind, is the common cause of the disease, and that removal of the cause is the first step in the treatment of all diseases; and, again, that the severity of many affections is dependent upon the "dose" of the cause. When this is heavy or long continued, the results will also be heavy and severe.

(4.) By clothing the animal and bandaging the legs, in fact by keeping up the equilibrium of the circulation; for if the vessels of the skin are prevented, by the operation of cold—acting upon and constringing them—from receiving a due supply of blood, internal congestions and inflammations are aggravated and often determined.

In addition to these rules, the practitioner must remember that the disease, once established, is the effect of a cause which has been in operation for some time past; that the effects, whatever they may be, are the natural physiological responses of the animal body to the action of such cause or causes; and that all attempts to remove such effects or conditions by other than those processes which nature herself attempts, and generally accomplishes, can only result in disappointment and loss.

How, then, does the animal body rid itself of disease and its results? Briefly, in the one before us, the inflammation is the result of an irritant, acting for a certain time upon a certain tissue or organ. If the dose of the irritant is strong, the resulting inflammation will be strong also, and nothing will subdue that inflammation so long as the cause retains its strength and is allowed to operate. This inflammation is characterised by congestion, effusion, and exudation. When the cause is removed, or when its strength is exhausted, the congestion slowly disappears, and the products of the inflammation, namely (1) the effusion is gradually taken up into the circulation and removed from the body by the excretory organs; and (2) the exudation or lymph, degenerated into a turbid fluid material—the pathological milk of Virchow—is removed in the same manner as the serous effusion, or becomes organised into a fibrous structure, which binds the surface of the opposing parts together, and constitutes *adhesion.* When this adhesion is completed, the new structure becomes a part of the living body.

Seeing, then that the various changes are natural results of the operation of a cause, the practitioner must be careful to avoid doing anything that is calculated to irritate or debilitate the animal body. At the same time he must be careful to keep the excretory organs in a natural condition, maintain the strength by appropriate diet, and allay morbid irritability by the administration and application of suitable remedies.

Medicinal treatment cannot be dispensed with. I am in the habit of administering nitrate of potash dissolved in the horse's drinking water during the first three or four days. Then, if the pulse becomes feeble, I prescribe ammon. carb. in ball, twice or thrice a day. If the respirations are difficult or laborious, I order the application of water, about 100° F., to the sides for an hour or

so at a time, if it gives relief; but I have found that in some instances it causes excitement, increased respiratory movements, even accelerates the pulse, and elevates the temperature. When such is the case, I have it discontinued. In very rare instances, when the commencement of convalescence is delayed, where it seems the exudate does not seem to break up and become absorbed, I have, in addition to administering iodide of potassium and colchicum, applied, with advantage, a weak ointment of the green iodide of mercury to the sides, but I never in the earlier stages employ the so-called counter irritation, or when a case progresses favourably, as I consider that irritants of all kinds increase the mortality, by elevating the temperature, increasing the respiratory movements and action of the heart, and by inducing a blocking up of the lymph stream, prevent the absorption of the inflammatory products from the lungs and pleural surfaces, and thus often induce a fatal hydrothorax.

In support of my views upon the treatment of this disease, I take the liberty of quoting the conclusions of Professor Hughes Bennett, who treated Pneumonia with salines and nutrients in the human being. He says—

"From all the facts now detailed, therefore, we may conclude—

"1. That an extreme antiphlogistic treatment has always been attended with a large mortality, amounting to 1 death in 3 cases; but that when modified in various ways—that is, by diminishing the amount of lowering remedies, selecting cases, or by the cases being those of young and vigorous subjects—the mortality varies from 1 death in $4\frac{1}{2}$ to 1 death in 13 cases.

"2. That when one-half the cases are those of children, or persons below twenty years of age, and the lowering treatment slight, the mortality diminishes to 1 death in 28 cases.

"3. That a treatment by large doses of tartar emetic has been accompanied by a mortality varying from 1 death in $4\frac{1}{2}$ to 1 death in $9\frac{1}{6}$ cases.

"4. That a dietetic or expectant treatment has been followed by a mortality varying from 1 death in $7\frac{1}{4}$ to 1 death in 10·9 cases. In children, according to Barthez, the mortality is almost *nil.*

"5. That the results of a mixed treatment, in which various remedies have been employed, according to the nature of the case and the stage of the disease, are a mortality varying from 1 death in $3\frac{1}{5}$ to 1 death in $13\frac{2}{3}$ cases.

"6. That a tonic treatment with iron and copper, according to Kissel, was attended with a mortality of 1 death in 22 cases.

"7. That a treatment by stimulants, according to Todd, was followed by a mortality of 1 death in 9 cases.

"8. That the restorative treatment of the author having been

attended, in the worst point of view, by a mortality of only 1 death in 32½ cases, is the most satisfactory yet published. But when it is considered that the 4 deaths resulted from pathlogical complications unconnected with the Pneumonia, this treatment may be said to render the mortality in simple cases of Pneumonia *nil.*

"9. That 105 uncomplicated cases, occurring consecutively in the clinical wards of the Royal Infirmary when under my care, during a period of sixteen years, should all have recovered, is a fact which can only be ascribed to the nature of the treatment, as is shown by contrasting the results of that treatment with those of a lowering, expectant, mixed, or specific practice.

"10. That just in proportion as other treatments approach the restorative principle, and avoid lowering the system, so much the greater is their success. It will further be observed that even where a direct lowering practice has been avoided, if the diet has been restricted, or opium largely given, or digitalis, alcohol, or other drug, tending to weaken the system and diminish appetite employed, no great advantage has been arrived at. So that—

"11. The variations which appear to follow the same treatment by different physicians are explicable by the amount of weakness in the patient, or circumstances in the treatment causing weakness, such as low diet, bleeding, tartar emetic, narcotics, etc., etc. It follows that supporting and restoring (not stimulating) the nutritive powers of the system, and avoiding all weakening remedies, ought to constitute the practice in Pneumonia.

"The author of an able article in the *British and Foreign Medical Review* for July, 1858, endeavoured to show, from the contrary results obtained by statistics, that the result was governed by hygienic laws, or peculiarities, such as age, season, climate, neglect of the disease at an early period, its stage, and especially its sthenic or asthenic type. I consider that my table is calculated to show the fallacy of such reasoning, and that, looking at the time over which it extends, as well as all the other circumstances to which he has adverted, it might easily be proved that the uniform good results in my uncomplicated cases depend on giving nutrients and restoratives from the commencement."—(*The Principles and Practice of Medicine*, by the late Professor J. Hughes Bennett, F.R.S.E., etc.).

## FIBROMA OF THE OS UTERI OF A COW.

BY THOMAS BOWHILL, F.R.C.V.S., DARLINGTON.

THE subject of this case was a large shorthorn cow in good condition, with the following history:—The owner had assisted the delivery of the calf, and in doing so found a large round mass at the neck of the womb, which interfered with the delivery of the cow. He was able to push this mass on one side, and, with assistance, calved the cow. The cow got rid of the fœtal membranes, and the straining caused expulsion of the mass, which was returned, but only to be again expelled in about an hour. The owner thinking the case serious I was called in. On my arrival the cow was in great agony, with this large mass protruding from the vulva, and about the size of a football. To the touch the mass was hard and scirrhous, and was covered more or less over its entire extent with mucous membrane; it was very thick at its base, which was attached to the cervix uteri. To return the mass was impossible, owing to the retraction of the surrounding structures. Having explained to the owner that it would be necessary to remove the tumour, and, as it was about 12 p.m., I gave the cow a large dose of Tinct. Opii, and supported the tumour in a bandage to relieve the pressure on the meatus urinarius, deciding to operate early the following morning. Next morning the cow was thrown and chloroform administered. The contiguous parts being thoroughly cleansed, and having verified my previous opinion as to the correct attachment of the tumour, I made a straight incision from about its centre back towards the apex, and tore away the central or hard portion with my fingers until I separated out in this manner a well-defined neck, over which the ecraseur chain was now put, torsion applied, and the mass removed. All the blood-vessels remained occluded, except one large arterial branch, which I ligatured with silk. After thoroughly cleansing the parts the cow was allowed to get up, when the remainder of the capsule was drawn inwards. The mass removed weighed exactly 7 lbs., and on section was found to consist entirely of white fibrous tissue, resembling three or four large masses or cotton balls cemented together, the tumour evidently being a growth beneath the mucous coats; and as it developed, the least resistance being outward, it pushed the mucosa, which stretched and accommodated itself so as to form an almost complete capsule. The cow progressed very well for about ten days, being turned out in a paddock, and continued grazing quite naturally; the parts were washed out daily. No serious symptoms manifested themselves until the tenth day, when there were indications of Metroperitonitis, and as they became aggravated the cow was destroyed.

The *post-mortem* appearances were somewhat annoying. At the cervix uteri, where the tumour was removed, only a slight ulcerated incision remained—in fact, nothing to indicate the removal of such a large mass only ten days previous. Further inspection revealed the cause of death to be at the fundus of the uterus, where an irregular ulcer existed, with degeneration of the mucosa, and a large white cicatrix due to previous injury to the walls of the uterus. From the ulcerated portion an irregular opening, part of which was evidently of recent origin, extended into the peritoneal cavity, thus accounting for the symptoms of Metro-peritonitis.

---

## UNUSUAL CANINE CASES.

BY "CONDENSED."

THE following may be of interest:—

Case 1. Shepherd's dog. Had been straining and trying to pass fæces for five days, and had eaten very little. Diagnosis, impaction of the rectum. Passed my finger into the anus and felt some hard material. Removed pieces of bone, hard fæculent matter, and small stones. After this removal a quantity of liquid excrement passed freely, the result of oil administered previously by the owner. The dog made a capital recovery.

Case 2. Scotch collie. Straining and endeavouring to defæcate for two weeks, generally a little liquid motion passed. Too much emaciation to allow me to prognosticate a successful issue. Destroyal. *Post-mortem*: Inflammation of bowels, and a large quantity of tow impacted in the rectum.

---

## CASE OF ECZEMA RUBRUM IN THE HORSE.

BY H. T. PEASE, M.R.C.V.S., A.V.D., PUNJAB GOVERNMENT, LAHORE.

CASES of Eczema corresponding to that variety which is, in the human subject, known as Eczema rubrum appear to be rather uncommon in the horse, and this is my excuse for recording the following case, which appears to be one of true Eczema rubrum:—

On the 30th January, 1891, a bay Turcoman horse of five years of age was brought to me at the Lahore Veterinary College, suffering from skin disease.

The horse had been marched down from beyond Kabul with droves of others by the owner, a Pathan, so as to reach India at the beginning of winter. On the journey the horse had never been groomed, and had been fed on coarse and indigestible food, consisting of very dry, sapless "bhoosa" (straw broken up in the

process of treading out the grain), and whole raw barley. As a consequence of this bad food, and the length of the marches taken, the horse arrived in Lahore in very poor condition, and, with a view to getting him into condition for sale as soon as possible, he had been given as much food as he could eat. This food consisted for the most part of "bhoosa," gram, barley, meal, and "gur" or unrefined sugar. After a fortnight on this diet, and with little exercise, the skin began to get irritable, and a characteristic eczematous vesicular eruption appeared. When I saw the case, the following were the symptoms noted: The skin in front of and under the chest, between the arms and under the abdomen, much tumefied and œdematous, presenting raw, red, angry-looking surfaces, from which a yellowish profuse discharge issued. The scrotum œdematous, red, raw from rubbing against the thighs and very sore, causing the horse to be lame. The head, surface of the neck, and sides presented various stages of eruption, from vesicles to scabbing. The discharge from the ruptured vesicles was very profuse. The skin was hot and tender, especially over the œdematous patches.

In addition to these local symptoms, there was considerable constitutional disturbance. The digestive organs were disturbed, the mouth sour, and the bowels constipated. The internal temperature registered 104·2° Fahr., and the pulse was hard and frequent.

The treatment adopted was directed to unloading the bowels by means of a saline aperient, the administration of alkalies, bicarbonate of potash and soda internally, after reducing the fever by means of saline febrifuges.

The local treatment consisted in the removal of as much of the coat as practicable, and dressing the skin with oil containing alkalies and sedatives. In the course of three days the animal was washed clean, and it was found that most of the scabs had softened and come away; the fever was reduced. A further dressing was applied, and on the tenth day much improvement was manifest. At this stage the horse was unfortunately lost sight of, as the owner had to march down country with his brethren, and he took the horse with him.

## INFLUENZA IN A MARE.

BY A. WILSON, V.S., DICK'S COLLEGE, EDINBURGH.

THIS case is, perhaps, worthy of mention, illustrating as it does the pneumonic form of the disease. The owner, a farmer, near Newcastle-on-Tyne, did not call in aid till about four days after the mare was taken ill; hence Mr. Cox (Newcastle-on-Tyne) and I, on being summoned, found the disease well advanced. No pulse at jaw; heart-beats loud and eighty to the minute; respirations laboured, and thirty in number; mouth hot and soapy, etc. Left lung, on auscultation, was very sonorous, with a slight rushing sound; in the right a cavernous sound was heard, indicative of bronchial respiration, impervious patches existing between. Our only sheet-anchor here was counter-irritation, and mustard was well rubbed in. A febrifuge, bromid. pot. ʒiii., with spirit ʒii., and mag. sulp. ℥ii. was administered. Next day, condition unaltered. On third visit, more fever existed; heart-beats, 90; respirations, 32-36; chlorodyne ʒiii. was given, alternately with other medicine. On the day following the right lung was acting better, and slight improvement was noticed in general symptoms. The crisis being now over, the mare gradually improved for four or five days, when she was found dead one morning, having dropped during the night.

*Post-mortem Examination.*—On examination of the heart a thrombus was discovered in the left ventricle and part of the aorta, almost blocking the opening. This undoubtedly was the cause of death.

The case, from the commencement, was a critical one, and such was the condition of the lungs that the animal would not have lived above a day or two, but for the repeated applications of blister to the sides; in fact, the lung structure, on examination, though partially hepatized, showed signs of recovery to its normal condition.

I may mention that the mare, when seen a few hours before death, was in a favourable condition—pulse at jaw 40, and respirations 15 to the minute.

This is a lesson as to the advisability of giving stimulants occasionally during the major part of the convalescent period in order to counteract the morbid tendency of the blood to coagulate, and to assist lowered vitality. Had this been done, the animal would have lived—an example which the opponents of counter-irritation would have found difficult to reconcile.

## OBSERVATIONS ON TRAUMATIC OR SURGICAL FEVER IN THE HORSE.

BY J. A. NUNN, F.R.C.V.S., D.S.O., PRINCIPAL, VETERINARY SCHOOL, LAHORE.

THE following remarks are arrived at from the temperature charts of twenty-three cases in the hospital of the Lahore Veterinary College, of which notes were taken during the winter of 1890-1891. These cases were all country-bred ponies, purchased for the purpose of the students performing the operation of castration on. The patients were all aged, and the operation was performed on all in the same manner, viz., under chloroform and by torsion. Being under the same conditions, as management, etc., the results are perhaps more uniform than they would have been if the observations had been taken on animals on which operations of various degrees of severity had been performed, and perhaps with or without anæsthetics.

Highest rise of thermometer, 104·20° F.

Number of cases in which the temperature reached between 104° and 105° F., 1; ditto, between 103° and 104°, 10; ditto, between 102° and 103°, 9; ditto, between 101° and 102°, 3.

Number of cases in which the highest rise of the thermometer was in the first day, 6; ditto, second day, 11; ditto, third day, 1; ditto, fourth day, 4; ditto, seventh day, 1.

Quickest return to normal temperature, *i.e.*, to between 100° and 101° F., 24 hours.

Longest period of return to normal temperature, *i.e.*, to between 100° and 101° F., 264 hours.

From these notes it would appear that there is a difference in the time in which the highest temperature is arrived at in the horse and mare, as in my observations the highest point was reached in eleven cases out of the twenty-three in the first two days; whereas in Holmes' Surgery, page 18, a small temperature chart in traumatic fever is given in which the temperature is at its height on the evening of the third day. The temperature charts are sent for inspection.

# Editorial.

## EAR VERTIGO.

It is to be hoped that the article which appeared in the June number of the Journal on "Meniere's Disease," as it is popularly designated, from the name of the physician who first described it in man, or "Labyrinthine Vertigo," as it also has been named, from its supposed seat, will receive the attention it deserves from those who are in a position to add to our knowledge of what must be considered an obscure affection, though probably it is not so rare in horses as we were inclined at one time to believe. The discussion which followed the reading of the paper at the meeting of the Central Veterinary Society showed this to be the case, for several of the speakers testified to the frequency with which it had come under their observation, though its probable nature was not suspected by them, as they imagined the symptoms were those of Staggers or Megrims, and due to gastric derangement. But when their attention was more closely drawn to the condition by hearing the paper read, they were then able to perceive a distinction, and some of them gave most important information with regard to the disease. One speaker especially—Mr. Sheather—furnished a most valuable fact corroborative of the pathology of the equine disease, in the case of a horse which eventually became deaf. Instances were given in which the affected animals were saddle-horses, so that the symptoms could not be due, in these cases at any rate, to collar pressure. Neither had warm weather any influence, as the cases alluded to in the paper and those mentioned at the meeting occurred during winter and mild weather. The peculiarity of the symptoms marks the disease at once, and enables anyone who had never seen it before to recognise it. And now that attention has been drawn to it, we trust that those of our readers who meet with such cases will record them. The nature of the malady is very indefinite in man, and veterinary surgeons may be able to assist in rendering it more clear, and particularly from *post-mortem* investigations. That the symptoms are due to derangement in the auditory apparatus can scarcely admit of a doubt, and especially when we know that Acari in the ear of dogs, cats, and rabbits will give rise to epileptiform seizures not much unlike those exhibited by the horses alluded to, as supposed to be affected with Labyrinthine Vertigo.

Though at present we know of no certain cure or treatment likely to palliate the symptoms, yet when we are more enlightened as to its pathology we shall probably be nearer this consummation. Clinical observation and cadaveric investigation should give that information which is needed to perfect our knowledge of what we may justly consider a new disease of the horse, or at least one not hitherto recognised.

## VIRULENCE OF HUMAN SALIVA IN HYDROPHOBIA.

At a meeting of the Société Medicale des Hopitaux on May 8th (*Semaine Médicale*, May 13th, 1891), M. Chantemesse, replying to a question asked at a previous meeting by M. Dumontpallier, said experimental evidence proved that the general belief that the saliva of a man suffering from Hydrophobia could not propagate the disease was erroneous. So far back as 1821 Magendie had, in conjunction with Breschet, made an experiment on the subject by injecting the saliva of a man who died of Hydrophobia in the Hotel Dieu under the skin of a dog. The animal developed rabies in a month, and two dogs bitten by it became rabid in forty days, whilst others remained well. This was a good illustration of the fact that the disease does not necessarily follow the infliction of a bite in all cases; as in the case of other infectious diseases, questions of dosage, penetration of the virus, individual resistance, etc., have to be taken into account. Thus of 100 persons bitten by rabid animals, and not submitted to Pasteur's treatment, the number who die of Hydrophobia varies from sixty to sixteen. M. Chantemesse added that Magendie's experiment had been confirmed by M. Pasteur and also by M. Roux, the latter of whom had obtained positive results by inoculating portions of the pancreas, parotid, and lachrymal gland from men who had died of Hydrophobia. M. Bardach, of Odessa, had also shown that the pancreas and parotid of persons suffering from the disease contained the virus. M. Rendu said the important point was whether the disease could be transmitted by man to man. He did not think there was a single authenticated case of a man suffering from Hydrophobia having given Hydrophobia to another by biting. M. Chantemesse agreed that no example of this had been recorded, but he insisted that as human saliva contained the rabic virus, the possibility of such a mode of transmission of the disease could not be denied. If it had not yet actually occurred, that was because the conditions favourable to such transmission (quantity of virus, sharpness of teeth, etc.) had not been fulfilled.

---

## CONTAGIOUS DISEASES (ANIMALS) ACTS, 1878 TO 1890.

In the *London Gazette* of June 30th, it is notified that the Board of Agriculture have appointed Temporary Travelling Inspector, Capt. George Stanford Mac-Ilwaine, R.N., to be Travelling Inspector for the purposes of the above-mentioned Acts, vice Arthur William Ricketts, Esq., retired.

The Rabies (Amendment) Order of 1891.—In the same *Gazette* there is published an order by the Board of Agriculture, as follows:—"1. So much of Article 16 (Slaughter in Rabies) of the Rabies Order of 1887, dated the 31st day of January, 1887, as relates to dogs is hereby revoked. 2. A local authority may cause any dog affected with or suspected of Rabies, or having been bitten by a dog affected with or suspected of Rabies within their district, to be slaughtered."

---

## EARLY RECOGNITION OF TUBERCULOSIS IN CATTLE.

A most remarkable observation has recently been made by M. Leon Mandereau,* of Besançon, which if corroborated must alter very considerably our ideas on the subject of the distribution of the tubercle bacillus in generalised and local Tuberculosis. This observer removed from the eyes of cattle that had succumbed to Tuberculosis a drop of the aqueous humour, stained it according to Ehrlich's method, and found that the characteristic

* *Journal des Connaissances Medicales*, No. 22, May 28th, 1891, p. 204.

tubercle bacilli were present sometimes in small, but always in sufficient, numbers to be readily identified. This opened up the way for the early diagnosis of tubercle, and M. Mandereau made careful examination of more than a score of animals suffering from Tuberculosis in various stages. As he expected, he found the bacillus in the aqueous humour in all cases where the condition was generalised; but, more remarkable still, he found them even in those cases where the disease was confined to the lungs and pleura, and even when it was present only in the liver. This being the case, the diagnosis of Tuberculosis could be made comparatively easily during life. This observation is so startling that much hesitation must be felt in accepting it; though made in perfectly good faith, it may be nullified by some undetected fallacy; and until it has been shown that all sources of fallacy were eliminated, it will be well to suspend final judgment. Should it prove to be true, it would be difficult to understand how Cohnheim and Salomonsen's experiments on the production of intra-ocular Tuberculosis are to be explained, if tubercle bacilli in the anterior chamber, when introduced naturally along the lymphatics, do not give rise to any marked symptoms of Tuberculosis. Of course, here it may be argued that a wound of the tissues was produced, and that the conditions are therefore not the same. Another point for consideration is that, if these observations be correct, we shall have to revise all our notions as to the presence of tubercle bacilli in the blood and lymphatics of the system generally, even in cases of localised Tuberculosis—conditions in which it has been held that tubercle bacilli were localised not only in their action, but also in their distribution. If the wound theory is to hold good at all, we should expect to find that after puncture of the cornea for the removal of the fluid, the tubercle nodules should make their appearance in the eye; and if these nodules do not occur, it is certainly presumptive evidence that tubercle bacilli are not there. Of course, upon such a point as this depends the possibility of the application of the method, even if other observers are able to substantiate M. Mandereau's observations. It is not now necessary to consider this question as regards the human subject, except in those cases of acute general Tuberculosis which frequently are indistinguishable from Enteric Fever or certain forms of Pneumonia; in such cases it might be valuable, but to the veterinary surgeons, who in their examination of cattle have to contend with numerous, and up to the present almost insuperable, difficulties, it would be of great value.—*British Medical Journal*, July 4th.

---

## CONCURRENT INOCULATIONS OF DIFFERENT INJECTIONS IN THE SAME ANIMAL.

KLEIN (*Nineteenth Annual Report of the Local Government Board*, 1889-90, page 215), using the bacillus of Swine Fever and the bacillus of Swine Erysipelas with which to inoculate mice, finds that if they are injected in about equal proportions, or even when the Swine Fever bacillus is in excess, the animals die, and both species of bacteria are found in the blood and spleen. When, however, the Swine Erysipelas bacillus is injected in larger quantities than the Swine Fever bacillus, the latter does not multiply to the usual extent, and no colonies can be obtained from the blood; whilst the Swine Erysipelas bacillus also fails to multiply as rapidly as under other conditions, the bacilli appearing to exert a mutual inhibitory action on each other's multiplication. Introducing certain products of bacterial life, such as those formed by proteus vulgaris, along with the microbe of Erysipelas, which had become somewhat attenuated, he found that they increased the virulence of the pathogenic organism so far that the inoculated animal succumbed to

general infection in from one to three days; and although no colonies of the streptococcus could be cultivated from the heart's blood, luxuriant cultures of the streptococcus erysipelatis could be obtained from other organs; the local virulence was also increased, and he concludes with Monti, who was able to increase the virulence of the pneumococcus in a similar manner, that the lost virulence is re-established when the chemical products of a common saprophyte—such as the proteus vulgaris—are introduced along with the less virulent sub-culture of a pathogenic organism.

## THE PART PLAYED BY MICROBES IN SUPPURATION.

In the course of a discussion at the recent French Congress of Surgery on the different forms of suppuration examined from bacteriological and clinical points of view, the following conclusions were laid down by M. Verneuil (*Revue de Chirurgie*, May): (1) Microbes are necessary for pyogenesis, pus is the function of microbes; (2) there are many known pyogenic microbes, but the number of these has not yet been made out; (3) some are constantly pyogenic and nothing more, others seldom produce pus and are pre-eminently infective; (4) the centres of suppuration are, in some instances, mono-microbic, in others poly-microbic; (5) in poly-microbic purulent centres there are three kinds of association—one of different agents that are all invariably pyogenic, another of invariable with occasional agents of suppuration, and a third of pyogenic with non-pyogenic agents; (6) a purulent centre originally mono-microbic may become poly-microbic; (7) a substitution of one kind of microbe for another kind may take place in a centre of suppuration; (8) the collection of pus may become amicrobic, the pyogenic agent may disappear, and the pus become sterile; (9) microbes which engender pus pervade the whole region of suppuration; (10) pyogenic microbes do not always excite suppuration, nor at the time of invasion; (11) the vitality of pyogenic microbes varies in the different forms—some disappear very quickly, others retain their vitality for almost indefinite periods; (12) suppuration may in every instance be regarded as due to the presence of bacteria; (13) the specificity of microbic agents being assumed, it becomes necessary to make out the specific action of each form of microbe. From these etiological conclusions one may readily deduce certain therapeutical indications: (1) In cases of open suppuration, as, for instance, unhealed wounds and carbuncle, the treatment should consist in prolonged antiseptic baths, and in the application of antiseptic powders; (2) if the suppuration be intradermic as in Lymphangitis and Erysipelas, the application of antiseptic powders will suffice; (3) if the suppuration be deep seated, one must penetrate into the collection in order to evacuate the pus and to sterilise it. Free incisions are useless; all that is necessary is to let out the pus through a small incision, and to replace it by a microbe-killing agent.

## STATISTICS OF THE PASTEUR INSTITUTE OF PARIS.

An official report by M. Léon Perdrix, on the antirabic vaccinations performed at the Pasteur Institute in Paris during 1890, which is published in the *Annales de l'Institut Pasteur* of May 25th, 1891, shows that last year the total number of persons treated there was 1,546. Of these, 314 were foreigners, of whom 56 came from England, 21 from Ireland, 4 from our Indian colonies, 1 from Germany, 101 from Belgium, 2 from Brazil, 2 from Egypt, 4 from Spain, 3 from the United States, 19 from Greece, 17 from Holland, 2 from the Dutch Indian colonies, 8 from Hungary, 1 from Italy, 2 from Monaco, 67 from Portugal, 1 from Roumania, 2 from Russia, and 1 from Turkey in Asia. Of the 1,546 persons treated, 11 died of Hydrophobia after

the completion of the inoculations, being a total mortality of 0·71 per cent.; of the 11 persons who died, 6 died within a fortnight of the completion of the treatment, and 5 at dates beyond that period. According to M. Perdrix, it is only the latter cases which should be counted as having occurred in spite of the treatment, as experiments on dogs have shown that when death takes place at any time within the fortnight immediately following the completion of the inoculations, the nervous centres have been invaded by the virus during the treatment. This reduces the mortality in the 1,540 cases (that is, 1,546 less the 6 who died within the fortnight) to 0·32 per cent. The total number of persons treated during 1886, 1887, 1888, 1889, and 1890 amounts to 9,433, of whom 58, or 0·61 per cent., have died. With regard to the situation of the bites, they may be divided into three groups, namely: (1) bites on the head and face, (2) bites on the hands, and (3) bites on the limbs and trunk. The mortality was 0·85 for the first group, 0·45 for the second, and 0 for the third. Taking the total number of persons treated since 1886, we find that among the 9,433 patients, 789 were bitten on the head and face, with 16 deaths, or a mortality 2·02 per cent.; 5,265 were bitten on the hands, with 33 deaths, or a mortality ot 0·62 per cent.; and 3,379 were bitten on the limbs and trunk, with 9 deaths, or a mortality of 0·26.

## TRANSMISSION OF TUBERCULOSIS TO ANIMALS.

M. GUINARD (*Lyon Medical*, May 17th, 1891) refers to a habit which, according to him, prevails among the peasantry in certain parts of France, of giving cattle water to drink which has been used for the household washing. He mentions a case which came under his notice in which the cows of a farm in the department of the Loire drank water every day in which the handkerchiefs used by a girl in the last stage of Phthisis, with very copious expectoration, had been washed. This suggested to M. Guinard the possibility of Tuberculosis being transmitted from the human to the bovine subject in this way, and he proceeded to make experiments to test the point. Having soiled some linen with tuberculous material, he had it washed in water in the ordinary way. On February 7th, 1891, he inoculated one rabbit and eight guinea-pigs, in the connective tissue, with this water. On the 18th two of the latter died, but on *post-mortem* examination they presented no definite signs of tubercle, but only Pericarditis and Pleurisy, with false membranes, which M. Guinard considered to be due to the action of the microbe observed by MM. Rodet and Courmount in their experiments on Tuberculosis. On February 22nd the rabbit died with a swelling in the thigh but no tubercle. On February 23rd and 24th two guinea-pigs died with numerous distinct tuberculous lesions. In March another guinea-pig died tuberculous. Up to the date of report, the remaining guinea-pigs continued to all appearance healthy. M. Guinard thinks the fact that in three cases the inoculation produced Tuberculosis sufficient to prove that the disease may be transmitted in the way indicated, and that the practice of giving cattle water to drink which has been used to wash linen fouled with tuberculous sputum is one to be carefully avoided.

## CENTENARY OF THE MILAN VETERINARY SCHOOL.

THE centenary of this renowned Italian Veterinary School is to be celebrated on the 5th, 6th, 7th, and 8th September next, and we are desired to state that veterinary representatives from other countries will be heartily received on this memorable occasion. The following is the programme of the four days proceedings:—

*September 5th.*

1. Discourse by the Director of the School.

2. Discourses by the official representatives and by the authorities.

3. Presentation on the part of the Directing Council of the Lombardy Medico-Veterinary Society, of a volume containing a list of all the laureates of the school since its foundation, with a brief biographical sketch of each. A discourse on this subject will be delivered by the President.

4. Presentation on the part of the Committee of past students, of an artistic album containing the greatest number possible of photographs of the laureates during the century. An analogous discourse by the President.

5. Presentation on the part of the students of the present year, of a memorial banner, which is to be preserved at the School as the banner of the students.

6. Presentation by the same of four bound volumes of photographs of all the present students.

7. Laying of a Commemorative Stone.

In the afternoon, inauguration of the National Congress of Italian Veterinary Surgeons and teachers. First sitting.

In the evening a banquet of honour will be given by the Directors of the School to the official representatives of the Italian Veterinary Schools and others.

*September 6th.*

The Congress sits in the forenoon and afternoon.

*September 7th.*

The teaching staff of the School and the Medico-Veterinary Society of Lombardy will entertain all the invited Italian and Foreign representatives, as well as the members of the Congress, to an excursion on the Lake of Como, with refreshments at Bellagio.

*September 8th.*

Closure of the Congress. Farewell banquet in the evening.

---

## PREDISPOSITION TO TUBERCULOUS INFECTION.

PROFESSOR BIRCH-HIRSCHFELD, of Leipzig, comments on the question of predisposition to tuberculous infection (*Wiener med. Blätter*, No. 17, 1891), pointing out that the prevailing theory of direct infection by inoculation of the bacillus is rapidly coming to be regarded as the only important factor in the spread of the disease. Predisposition may be classed as "general" and "local," meaning by the first term a greater or less resistance to the development of tubercle; and by the second the various factors that incline an individual organ or part to become tuberculous. General predisposition may be inherited or acquired, as in the case of Diabetes. Local predisposition may depend upon the condition of the local tissues, the opportunities which they afford for the entrance of the tuberculous virus, and the amount of resistance which they set up against its development. Inherited predisposition is strengthened by the fact that up to the present time the evidence of direct conveyance of the disease from mother to fœtus *in utero* has not been well established in the human species, although undoubted instances have been reported as occurring amongst certain animals. Dr. Birch-Hirschfeld relates a case in which a fœtus was removed from the uterus of a woman, aged 23, within a few moments of her death from general Tuberculosis, without any damage being done to the placenta. Portions of the liver, spleen, and kidney of the fœtus produced tuberculous disease when inoculated into rabbits and guinea-pigs, but only in the capillaries of the liver could any tubercle bacilli be discovered. In the placenta, however, the villous spaces were crowded with bacilli. The very limited evidence of tuberculous

material in the fœtus might serve as an explanation of the fact that children of tuberculous parents are often born without any manifestations of tuberculous disease, and yet appear to develop tubercle during the first few years of life. A limited infection by the maternal bacilli, perhaps during the process of birth, might remain latent in one or more organs until other circumstances contribute to their development. It is thus possible that confusion may exist between "latent tubercle" and "tuberculous predisposition." That latent tubercle may remain quiescent, especially in bronchial glands, until awakened by an attack of acute disease such as Measles or Whooping-cough, is well known. The frequent occurrence of such latent tuberculous foci, without any other evidence of tuberculous disease, goes far to prove that resistance to tubercle is as powerful a factor as predisposition. The congestive influences of valvular disease of the heart and of emphysema upon the connective tissues of the lungs are examples of some of the mechanical causes which constitute resistance.

## THE INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

We have much pleasure in announcing that at the meeting of Council of the Royal College of Veterinary Surgeons held on July 23rd, it was resolved to entertain those distinguished members of our profession who purpose attending the above congress, and who travel from the United States, France, Germany and Denmark to take part in the proceedings. The entertainment will take the form of a banquet in London, and it may be inferred that members of the profession who desire to be present can do so by sending in their names as soon as possible to the Secretary of the R.C.V.S.

So far as is at present known, the following gentlemen are expected to attend the Congress, and will therefore probably accept the invitation of the profession :—

Dr. Chauveau, Paris, Inspector of the Veterinary Schools of France.
Professor and Dr. Arloing, Director of the Lyons Veterinary School.
Professor Railliet, Professor of Natural History, Alfort Veterinary School.
Professor and Dr. Bollinger, Director of the Munich Veterinary School.
Dr. Carsten, Amsterdam.
Professor and Dr. Bang, Director of the Copenhagen Veterinary School.
Professor Perroncito, Turin Veterinary School.
Dr. Ostertag, Berlin.
Dr. Devaux, Brussels.
Dr. D. E. Salmon, Chief of the Bureau of Animal Industry, Washington, U.S.A.
Professor and Dr. Johne, Director of the Dresden Veterinary School.

## DISGRACEFUL ADVERTISING IN IRELAND.

The following petition, signed by the majority of the veterinary surgeons practising in Cork and district, has been forwarded to the Council of the Royal College of Veterinary Surgeons.

To the President and Council of the Royal College of Veterinary Surgeons,
Red Lion Square, London.

We, the following members of the Royal College of Veterinary Surgeons, practising in the South of Ireland, beg to draw the attention of the Council to the enclosed placard which is issued and largely circulated by an "existing practitioner," Mr. R. Good, of Sherlow, Co. Cork. We consider this form of advertisement to be detrimental to the reputation of the profession, as this individual places after his name the title of Veterinary Surgeon.

We are not aware if there exists any bye-law for regulating cases of this kind. If there is such a bye-law, we beg to petition the Council to take the matter up and have the case dealt with as it deserves.

Signed, this 20th day of July, 1891:—

James Preston, F.R.C.V.S., Mallow; J. H. H. Peard, Cork; P. W. Creagh, Fermoy; John F. Healy, Midleton; Edw. C. Winter, Limerick, P. Johnstone, Limerick; R. C. Bullen, Mallow; E. Wallis Hoare, Cork; D. M. Barry, Butterant; George Phelan, Cork; John Sinclair, Cork; G. and J. Muir, Cork.

---

## PROFESSIONAL PROTECTION *VICE* PUBLIC WELFARE.

(*Continued from page* 28.)

Before me lie three publications, two professional journals and a sporting paper. Let us look over them. The first (*Journal of Comparative Medicine and Veterinary Archives*) devotes page 3, the entire page, to advertisements of the Sanitas Preparations, signed A. J. Sewell, M.R.C.V.S., for the American and Continental "Sanitas Company, Limited." Inside cover—entire page—*Spelterine Company*, "which manufactures the best remedy for wounds and sores of every description to persons or animals." It continues "Read the following testimonials from veterinarians and others." Then follows an "*Extract from editorial in American Veterinary Review for April*, 1889. *Edited and published by Professor A. Liautard, M.D.V.M., Dean of the Faculty of the American Veterinary College.*" And our worthy and honoured professor gives "Spelterine" a send off, which must have rejoiced the heart of the Spelterine Company, *Limited.* Another recommend is from F. L. Kilbourne, director of Veterinary Experiment Station, and another still from the U.S. Department of Agriculture, Bureau of Animal Industry, signed by William H. Catlin, special agent for U.S. Department of Agriculture. About five pages are devoted to the Colleges, each College having one or more professors names attached thereto. They give the Colleges a send off, I suppose. This is all legal. In the *Spirit of the Times*—sporting paper—we again find the professor's name, also those of Lyman, Smith, and McEachran. Of course they go with the Colleges, probably as escorts, but what bothers me is, why a fellow can't go *alone* in company, that is not too bad to introduce his best girl to. For it is a fact, dear brother ordinary practitioner, that you and I, with only one diploma, only one little title, dare not publish our names, dare not be trusted alongside of Spavin Cure, Ossidine, and such abominations, but *Professors* Liautard, McEachran, Lyman and Smith, *Deans* (catch on?) of "Colleges" may be.

The title-page of THE VETERINARY JOURNAL is monopolised by George Fleming, C.B., LL.D., F.R.C.V.S.—all titles honourably won, and only put on a professional journal (but anybody with the collateral in his pocket may buy the Journal). Now THE VETERINARY JOURNAL can be advertised in all the newspapers, and Professor Fleming as its editor can also. Frost Cogs are pretty good, too; so are Professor Walley's instruments. In fact, the surgical instrument maker and the wholesale drug houses are excellent mediums, and now that the *Journal of Comparative Medicine and Veterinary Archives* is giving space, monthly, to the patents and patentees relating to "*veterinary medicine and animal industry*," it makes the field a little larger. It is a good thing to write (it isn't necessary to write like a Fleming), to invent an instrument (not necessarily one of Walley's), it needn't be worth a *sou, mark'ee*; the crudest, the most bungling affair will answer (in fact, as far as professional protection is concerned, the cruder the better, for if it is worth nothing it will take no work out of our hands), or advertise a "Trade Mark" Company, Limited.

Now there is a good deal of farcical business in this non-advertising scheme. If it is wrong to advertise, don't advertise; if it is right, let us all have equal rights, and let us advertise as we please, as we think best. Now don't hold up your hands in horror! Remember we are "all honourable men"—and the public will insist that we be not only honourable but capable—and may be trusted to carry on our business with due pride and dignity.

My first appeal was for justice to the public, my second is for justice to ourselves. Do you not see whither we are drifting? First, away from the public welfare; second, away from our own. At first the contestants seemed to be the public and ourselves; now it is getting where it is V.S. against V.S. This seems inevitable, according to a believer in the Malthusian theory; but the Malthusian theory has been disproven, and the dangers threatening our standing, our affluence, our pocket-book, as a profession or as individuals, are due in great measure, if not entirely, to ever-growing, well-meant, but mistaken restrictions, and not to over-crowding. Even if the theory of Malthus was true, in regard to us as a body, that we increase in numbers faster than our field of usefulness calls for, even then there would be little, if any danger, just at present; but if we abridge the field by our own acts, restrict our sphere of usefulness, why we must take the consequences. If we make rules for the guidance of the faithful, and they cannot stand good solid reasoning, we will find heretics in the profession, and schisms, and *reformation*.

What is the remedy? Did you ever read the "Declaration of Independence"? It says "All men are endowed with equal rights," and this means that every human being who comes into this world has *at least the right* to become—yes, actually to become—a veterinary surgeon. Is there one among us who dare say God Almighty, when He conceived *his* being, gave *him* a preference, meant *him* to follow his bent, and denied it to another? Vain egotist he indeed would be, to answer in the affirmative. Then let us start on a basis of justice; aye! "let us have justice though the heavens fall." If the veterinary profession cannot exist, cannot flourish on such a basis, the sooner it goes to the "demnition bow-wows" the better. Then, if every man is endowed with equal rights, it is every man's right to have FREEDOM OF OPPORTUNITY. That is our remedy. Instead of closing our college doors tighter and tighter with each succeeding year, open them wider and wider; instead of insisting on the applicant first being a classical scholar, having his pants cut after a certain fashion, being a strict church member, and possessed of a good-sized pocket-book, drop your restrictions entirely, take away all fees, reap your harvest of veterinary surgeons from the wide, wide world, from the rich, the poor, the good, the bad, aye! and the lame and the halt and the blind, although I believe the latter are not barred out yet. "The tailor doesn't make the man," neither does he make the veterinarian, neither does wealth, nor a good moral character, nor a primary education. Besides all these restrictions—including the pupilage idea, which is a farce*—only bear on a certain class, and it is not that class that we have to fear in the future; it is the smart man, not only smart in professional matters, but smart in taking advantage of those restrictions we are so assiduously working to increase.

Do you know what restrictions are doing? Remember the basis they are founded on: *the good of a part.* They will grow, and they will continue growing, if not checked, until they benefit but a part of that part. Look around you! Note the spirit of the times! Trade, commerce, businesses

* In the medical colleges they have *pupilage.* A year's pupilage means a year less of study for your script. Every student has a certificate showing he has spent a year under an M.D., and some of the students never even see the doctor. I know this for a fact. While attending the College of Physicians and Surgeons, New York, we students considered it a good joke, or a poor one, and I consider it so yet.

of all kinds, and even the medical profession, are tending towards concentration; the mighty interests of the country are making rapid strides to those mammoth combinations known as trusts. That is just where we are going. Our endeavours are to emulate the medical profession, but we might well accept Patrick Henry's advice, and besides emulating, "take warning," as it will be a sad day when we get there, for many deserving ones.

Restrictions always grow, that is their tendency; they grow until we get so thoroughly hedged in by them that in time we look upon a figure of speech, the written word of the code, as articles of faith, and he a *heretic* who dares question their fallibility. Ouida says "Christianity is a failure, because the spirit of Christ has left it," that it has dwindled to a creed of formulas. "A judge would be considered crazy indeed who would tell a plaintiff in a case of assault and battery, to turn his other side; the parent tells his child at night of his Father in heaven who watches over all, not even a sparrow falling without His knowledge. Then he loads his gun and sprinkles poison over his fields." Our tendency, also, is to a "creed of formulas." There will come a time when we have laws and regulations among ourselves, so numerous and so *perfected*, that it will take a Philadelphia lawyer to elucidate them. It is a poor outlook to think that *the Philadelphia lawyer is the coming veterinarian.* When Messrs. Code and Company, and the Colleges, bear the same relation to us as law to the lawyer; the Bible and the Scriptures to Christians; public welfare to the politician; just then, brother ordinary, will you and I get deplorably left. Our leaders will be professional geniuses and Philadelphia lawyers, with the latter greatly predominating.

But "Great heavens!" I hear you exclaim, "remove all such restrictions, and you bring immediate ruin and disaster; the profession would become overcrowded in no time, filled with the riff-raff of society!" If I contradict you by a simple negative, you add, "It's as plain as the nose on your face," as plain as that prominent organ "to everybody," from which I infer, if *you* were out, it would prevent *you* from coming in—wouldn't it prevent others? The plainness, the baldness of it, is its own remedy. "But enough would come in," you add, "to overcrowd us, to make the fight grow too fierce." Again I ask, "Wouldn't this competition do away with the riff-raff?" Besides, hasn't the bugle-note of "*overproduction*" already sounded clear and strong from our ranks, and this, while but a small per cent. of the ground has been covered, let alone cultivated. But if freedom of choice to all brings disaster to few, so be it, we must be sacrificed, if the sacrifice furthers the public welfare. Some suffer now, and it isn't always the dullard. "But," you continue, "*now* the individual suffers, *then* it would be the profession." Again, I answer, when you assert this, you are forgetting the most important factor in our existence—THE PUBLIC.

Do you forget what the public has done, in the light of history—do you realise that it has created a republic, and made the noblest, the grandest, the ideal form of government from that same chaotic mass of humanity, that we say from which a *veterinary profession* cannot be raised? From the ranks of this numerous army it has selected United States Presidents, formed senates and congresses, chosen state officers, city and town officials, but it cannot be trusted in its choice as to who should, and who should not, become a veterinarian,—who should, and who should not, be consulted regarding the health of its pet canary birds, etc. A poor young man, endowed by God with sufficient ability, whose highest ambition is to become a V.S., is obliged, per restrictions, to exert his energies in another sphere, and in the end may die —God wot!—a figure in history, the head of the mightiest nation on earth, or a general, a commodore, a rail-road magnate, or other kind of millionaire, even the ruling power of a trust—for all these fields are more *easily entered* than our specially protected one.

Let us always bear in mind that *the perfect adaptation of our knowledge to the public wants is our end and aim.* The public are only too anxious for us to reach that perfection. It is to its interest that we do so, as well as to our own. On the pinnacle interests meet; on the pathway they do not conflict, though appearances may often contradict me. Let us keep this beacon-light in view, and go ever upwards and onwards in one direction, towards one goal. We can safely put our trust in the public; its decisions may not be always for our *immediate* good, or its own; it may, many times, decide against us, and against itself, but rest assured that the "sober second thought of the people" that Lincoln put his trust in, will correct its own errors; do us justice; and in the end "we will get there, all the same."

Providence, R.I., U.S.A. JOHN A. McLAUGHLIN, D.V.S.

## THE JOHN HENRY STEEL MEMORIAL FUND.

SUBSCRIPTION LIST.

| | £ | s. | d. |
|---|---|---|---|
| J. S. Hurndall .. .. | 1 | 1 | 0 |
| B. Glover, A.V.D. .. .. | 2 | 2 | 0 |
| F. Raymond .. .. | 1 | 1 | 0 |
| J. D. Barford .. .. | 1 | 1 | 0 |
| W. H. Bloye, Western Counties Association .. .. | 5 | 0 | 0 |
| Sir W. Fitzwygram .. | 1 | 0 | 0 |
| J. Roalfe Cox .. .. | 1 | 1 | 0 |
| J. B. Wolstenholme .. | 1 | 1 | 0 |
| A. C. Piesse .. .. | 0 | 10 | 6 |
| A. Harris, Brixton .. .. | 0 | 10 | 0 |
| A. Lawson .. .. .. | 1 | 1 | 0 |
| E. J. Mellett .. .. | 1 | 1 | 0 |
| T. Olver .. .. .. | 1 | 1 | 0 |
| J. Burton, A.V.D. .. .. | 0 | 10 | 6 |
| F. W. Willett .. .. | 0 | 2 | 6 |
| W. F. Garside .. .. | 1 | 1 | 0 |
| M. Clarke .. .. .. | 0 | 10 | 0 |
| R. Roberts .. .. .. | 0 | 2 | 6 |
| E. R. Edwards .. .. | 0 | 10 | 6 |
| J. C. Bonnett .. .. | 1 | 1 | 0 |
| A. Wheatley .. .. | 0 | 10 | 6 |
| „ „ 2nd donation .. | 0 | 10 | 6 |
| F. G. Samson .. .. | 1 | 1 | 0 |
| C. Hartley .. .. .. | 1 | 1 | 0 |
| W. C. B. Revill .. .. | 0 | 10 | 6 |
| T. Leather .. .. .. | 0 | 10 | 6 |
| R. Rutherford .. .. | 1 | 1 | 0 |
| W. F. Burnett .. .. | 1 | 1 | 0 |
| W. J. Mulvey .. .. | 1 | 1 | 0 |
| C. Rose .. .. .. | 0 | 10 | 6 |
| A. Moore .. .. .. | 0 | 10 | 6 |
| J. Ward .. .. .. | 1 | 1 | 0 |
| E. Batt .. .. .. | 2 | 2 | 0 |
| F. G. Batt .. .. .. | 2 | 2 | 0 |
| J. Reynolds .. .. | 1 | 1 | 0 |
| W. Woods .. .. .. | 1 | 1 | 0 |
| J. A. W. Dollar .. .. | 1 | 1 | 0 |
| H. G. Rogers .. .. | 0 | 10 | 6 |
| H. Kidd .. .. .. | 0 | 10 | 6 |
| J. Hammond .. .. | 1 | 1 | 0 |
| F. Smith .. .. .. | 2 | 2 | 0 |
| W. R. Emery .. .. | 0 | 10 | 6 |
| J. B. Nesbit .. .. | 1 | 1 | 0 |
| A. W. Mason .. .. | 1 | 1 | 0 |
| C. Stephenson .. .. | 5 | 5 | 0 |
| Professor Brown .. .. | 1 | 1 | 0 |
| North Engd. Vet. M. S. .. | 5 | 0 | 0 |
| Professor Pritchard .. | 1 | 1 | 0 |
| „ Williams .. | 1 | 1 | 0 |
| „ Walley .. .. | 1 | 1 | 0 |
| „ McFadyean .. | 1 | 1 | 0 |
| „ Penberthy .. | 1 | 1 | 0 |
| C. Hunting .. .. .. | 5 | 5 | 0 |
| F. W. Forsdyke .. .. | 1 | 1 | 0 |
| E. Faulkner .. .. | 1 | 1 | 0 |
| S. Villars .. .. .. | 1 | 1 | 0 |
| J. W. Dipper .. .. | 1 | 1 | 0 |
| H. M. Singleton .. .. | 0 | 10 | 6 |
| J. D. Lambert .. .. | 1 | 1 | 0 |
| J. Hill .. .. .. | 1 | 1 | 0 |
| M. Healy .. .. .. | 1 | 1 | 0 |
| J. H. Meredith .. .. | 1 | 0 | 0 |
| F. W. Kendall .. .. | 1 | 1 | 0 |
| Dr. Fleming .. .. | 1 | 1 | 0 |
| R. F. Frost .. .. .. | 1 | 1 | 0 |
| F. H. Merrick .. .. | 0 | 5 | 0 |
| G. H. West .. .. | 0 | 5 | 0 |
| W. S. Carless .. .. | 0 | 10 | 0 |
| F. W. Barling .. .. | 0 | 10 | 0 |
| J. Malcolm .. .. .. | 1 | 0 | 0 |
| W. Carless .. .. .. | 1 | 1 | 0 |
| W. Taylor .. .. .. | 0 | 10 | 0 |
| A. Over .. .. .. | 0 | 10 | 0 |
| H. and W. A. Edgar .. | 2 | 2 | 0 |
| E. S. Shave .. .. | 1 | 1 | 0 |

| | £ | s. | d. |
|---|---|---|---|
| R. E. Trigger .. .. | 1 | 1 | 0 |
| Per Mr. McKenny :— | | | |
| V.M.A. of Ireland .. | 10 | 0 | 0 |
| T. D. Lambert .. .. | 5 | 5 | 0 |
| C. Allen .. .. .. | 5 | 5 | 0 |
| J. Reilly .. .. .. | 2 | 2 | 0 |
| A. C. Webb .. .. | 2 | 2 | 0 |
| J. McKenny .. .. | 5 | 5 | 0 |
| J. B. Savage .. .. | 1 | 1 | 0 |
| J. McCall .. .. .. | 2 | 2 | 0 |
| H. Thomson .. .. | 2 | 2 | 0 |
| Matthew Hedley, Cht. Insp. | 3 | 3 | 0 |
| D. S. Prentice, Travg. Insp. | 1 | 1 | 0 |
| J. H. Jones, Portal Insp... | 1 | 1 | 0 |
| F. Kerr, Dublin .. .. | 1 | 1 | 0 |
| W. C. M. Smith, Newry .. | 1 | 1 | 0 |
| W. J. Gabbie, Dundalk .. | 1 | 0 | 0 |
| H. J. Kelly, Greenore .. | 1 | 0 | 0 |
| O. D. Coll, Limerick .. | 1 | 0 | 0 |
| R. S. Blee, Waterford .. | 1 | 0 | 0 |
| W. H. Johnson .. .. | 1 | 0 | 0 |
| D. Hamilton, Sligo .. | 1 | 0 | 0 |
| R. Dove, Dublin .. .. | 0 | 10 | 6 |
| John Sinclair, Cork .. | 0 | 10 | 6 |
| J. R. Lewis, Dublin .. | 0 | 10 | 6 |
| R. A. Gilmore, Coleraine.. | 0 | 10 | 6 |
| W. B. Cronyn, Dublin .. | 0 | 10 | 6 |
| J. A. Bole, Portal Super... | 0 | 10 | 0 |

| | £ | s. | d. |
|---|---|---|---|
| H. T. Ashbee, Belfast .. | 0 | 10 | 0 |
| G. A. Jilluir, Cork.. .. | 0 | 10 | 0 |
| C. H. Jones, Dublin .. | 0 | 10 | 0 |
| Wm. Chambers, Drogheda | 0 | 10 | 0 |
| Jas. Taylor, Dundrum .. | 0 | 10 | 0 |
| J. Jenks, Larne Harbour.. | 0 | 10 | 0 |
| J. B. Moore, Londonderry | 0 | 10 | 0 |
| H. Keyes, Dublin .. .. | 0 | 10 | 0 |
| L. W. Delalherois, Dublin | 0 | 10 | 0 |
| J. W. Logan, Dublin .. | 0 | 10 | 0 |
| Jas. Purdy, „ .. | 0 | 10 | 0 |
| F. W. Emery, „ .. | 0 | 10 | 0 |
| J. M. Christy, „ .. | 0 | 10 | 0 |
| J. H. Bell, „ .. | 0 | 10 | 0 |
| F. C. Gavin, „ .. | 0 | 10 | 0 |
| W. B. West, „ .. | 0 | 10 | 0 |
| F. J. Daly, „ .. | 0 | 10 | 0 |
| W. J. Moran „ .. | 0 | 10 | 0 |
| T. Greaves.. .. .. | 1 | 1 | 0 |
| W. Whittle .. .. | 1 | 1 | 0 |
| T. Hopkin .. .. .. | 1 | 1 | 0 |
| T. Briggs .. .. .. | 0 | 10 | 6 |
| A. Leather.. .. .. | 1 | 1 | 0 |
| G. G. Mayor .. .. | 0 | 10 | 6 |
| S. Locke .. .. .. | 1 | 1 | 0 |
| Total | 191 | 11 | 0 |

# Proceedings of Veterinary Medical Societies, &c.

## ROYAL VETERINARY COLLEGE.

In the absence of the Duke of Cambridge, President of the Royal Veterinary College, through pressure of engagements, Colonel Sir Nigel Kingscote presided over the sixteenth annual general meeting of the supporters of the institution, which took place on July 16th, at the College, Camden Town. Those present included Lord Egerton of Tatton, Lord Ribblesdale, Sir Frederick Fitzwygram, M.P., Sir Jacob Wilson, Mr. E. Marjoribanks, M.P., Dr. E. M. Crookshank, Mr. Berens, Mr. Allender, Mr. Sutton, and Mr. Richard A. N. Powys (secretary). The Chairman moved the adoption of the report. Lord Egerton of Tatton seconded the motion, which was unanimously adopted. The Chairman then announced that Mr. H. H. Whitlamsmith had been awarded the scholarship, Mr. Harold Sessions the Coleman silver medal, Mr. Joseph Manton the bronze medal, and Mr. A. E. Bayley the certificate of merit. On the motion of Sir F. Fitzwygram, M.P., seconded by Lord Ribblesdale, Colonel Sir Nigel Kingscote was elected vice-president of the college in the place of Lord Deramore, deceased. Lord Ribblesdale then moved, and Lord Egerton of Tatton seconded the election of the following gentlemen as governors of the institution :—Mr. P. Beresford Hope, Mr. J. Astley Bloxam, Mr. Lambert, and Captain Swithinbank, which was approved. The usual compliment to the chairman was, on the motion of Mr. Berens, seconded by Sir F. Fitzwygram, passed, and the meeting terminated. In view of the present year being the centenary of the

college, it is intended to celebrate the event by entertaining the Prince of Wales, the Duke of Cambridge, and other distinguished guests at a luncheon, to which the students will be invited. The event will take place late in the autumn. It is proposed also to institute a centenary scholarship.

## MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

(*Continued from page* 54.)

### *Dual Appointments.*

Having accepted two out of the three reforms so prominently put forward, I regret the Council have not also been able to see their way to accept the principle so strongly urged for in the remaining one, viz., that involved in the abolition of the dual appointment. With the majority the feeling against the principle of the dual appointment is second only to that against the Ninth Clause, while with the minority the feeling is equally strong against any interference with existing arrangements. At present these opposite opinions are so strongly held, or keenly contested, by their various adherents as to give rise to the impression that it is round this question the keenest controversy is destined to wage, and as each side appears convinced of the justice of their case, it looks as if it will be fought out to the bitter end—a solution of the difficulty much to be deplored, and which will inevitably seriously retard, if it does not jeopardise, the New Charter.

The chief reasons for advocating the abrogation of the dual appointment are based solely and purely on grounds of principle. The members of vestries, municipalities and other corporate bodies are interdicted from any dual capacity involving the receipt of fee, salary, or honorarium. But with us the great question is not one of fees—it is one of office. We know that matters have arisen, as they probably again will arise, affecting the examiners—we had an example of it the other day—and yet when such matters come up for investigation, those implicated may adjudicate on their own case. Now while this holds good, no matter how fairly and justly a conclusion may be arrived at, nothing can save it from insinuations, or give it a stamp of absolute impartiality; yet this position with all it involves does not even protect the examiners themselves from being the sufferers, as was only too clearly evidenced in a case the other day. It has been said that to abrogate the dual appointment would be to impose an indignity on the Council. It surely cannot be an indignity to protect them from unjust insinuations, and to place them in precisely the same position to the Examining Board as the teachers! The only real and valid argument I have heard in favour of the retention of the dual appointment is the one that the very best men should be got from whatever source. This seems unanswerable at first sight, but as we have already excluded the teachers and the whole body of members, it loses all the weight it ever possessed, and to leave Members of Council and the Examining Board open to the insinuation that their position is liable to bias their action would be a deplorable error.

An examinership, with the sole exception of the presidency, is the very highest honour we can confer, and the position ought to be so fortified about as to guard it against the possibility even of being open to aspersions from any quarter. But while the dual appointment remains in force it will be impossible to so safeguard it.

### *Pupilage.*

We now come to the pupilage question. It is suggested that before a student obtains his diploma he shall be obliged to furnish a certificate proving that he has undergone twelve months' pupilage with a duly recognised practitioner. Now, gentlemen, this pupilage question is one upon which I know

many of you feel very strongly. You believe that many of the newly-fledged graduates do not possess an adequate knowledge of the practical details of their profession, therefore your desire to provide a cure for the evil is a very natural and commendable one. As it is generally asserted that a knowledge of practice cannot be obtained at college, but must be learned with the general practitioner, it is perhaps not unnatural you should look for the remedy in compulsory pupilage. But that compulsory pupilage would form the all-powerful panacea so confidently predicted for it in some quarters, there is not the smallest particle of proof to show; on the contrary, we have recently been furnished with particularly convincing evidence that to accept a pupilage as in any sense a guarantee of the possession of practical knowledge on the part of a candidate would be too utterly ridiculous to be seriously entertained for one moment. Bear in mind I do not say, and have not the least desire to say, one single word against pupilage in itself. Any veterinary aspirant who serves a term of pupilage with an intelligent practitioner in general practice may, and probably will, receive inestimable benefit, but the bare fact that a youth has been twelve months with some veterinary surgeon, is, in itself, not one iota of proof that he knows anything whatever, either practical or theoretical. It is by examination, and by that alone, that you can certify his knowledge. Look for a moment at the deplorable spectacle so graphically described in a letter to the Council by Mr. Lambert, the Chief Veterinary Surgeon to the Army, and vouched for by Mr. Waters, a member of your Board of Examiners. Last December ten candidates presented themselves for the entrance examination to the Army; of these only two passed and eight were rejected, and according to Mr. Lambert "the practical ignorance displayed was deplorable—almost incredible; yet these candidates had been pupils of veterinary surgeons in private practice." Remember, gentlemen, on such high authority you have evidence of incredible and deplorable ignorance of practice in eighty per cent. of the candidates who had served a pupilage; and in the face of such damning evidence as this it is now, forsooth, seriously contemplated to institute twelve months of compulsory pupilage! It is needless to say the Army examiners did not detect the capacity or incapacity of these candidates by the presence or absence of a term of pupilage. They adopted the only just, sensible, and practical method of thoroughly testing whether the candidates did know or did not know their business.

If the Army examiners can find the time, and ways, and means to thoroughly test the candidates, is it too much to ask that the Royal College of Veterinary Surgeons and its Board of Examiners shall do so also? If greater facilities be required, by all means let us have them—extend the time if need be, and provide whatever is deemed necessary or essential, but do not let us descend to that pitiful spectacle of substituting an utterly unreliable certificate for a real and searching examination. Let us face the thing boldly, and allow the students to acquire their practice in the way they find best. If one should choose to spend a year or two on some farm acquiring as thorough a knowledge of the habits of our domestic animals as he can, and becoming conversant with their appearance in health and disease, is he to be classed with some town-bred lad direct from school or office? The latter, even after his twelve months' devotion to dispensing some few stereotyped remedies, varied by seeing a lame case or giving a ball, will not be nearly so well equipped for commencing a systematic study of his profession as his compeer direct from the farm. If you go to the men who have immeasurably the greatest experience on this question, viz., the Principals of the schools, they will tell you the so-called practical men are not unfrequently eminently disappointing; while the men who have not "seen practice" frequently prove themselves among the very best students. When the former think

they know, and presume upon their supposed knowledge, and the latter are conscious of their ignorance and endeavour to remedy it, the ultimate issue is not often in doubt. It was certainly the case in my time at college, and subsequent events have not belied the promise then evidenced. Man after man I can name who have established themselves at first-class practitioners and are already recognised as being right in the front rank of the profession, yet they served no pupilage. But, gentlemen, let me ask you, is this so-called lack of practical knowledge the real evil under which we are groaning? Personally I do not think so. I will admit that a number of men leave college with an imperfect practical knowledge, but if they are thoroughly grounded in the principles, any little defect in practice is very soon remedied. I have only to look round this room to feel thoroughly convinced we are not languishing from any want of practical knowledge—although this society numbers 100 members I do not believe there is an unpractical man amongst you. How can you possibly be otherwise since you are continually seeing practice and becoming more practical every day! Believe me, we need not feel any misgiving about practical knowledge so long as we can muster an ever renewing array of practical talent like this before me. Now, if you will allow me, I will tell you what I consider has been, and still is, the weak point in our profession, although it is undoubtedly being remedied, and that is a dearth of widely cultured scientific men. A real scientist, able to hold his own among the leading scientists of kindred professions, does our profession more good, and raises us more in the estimation of scientific men and the thinking world in general, than can be well estimated. All honour to the few who have spent time, and money, and incalculable devotion and labour to this end. We must all acknowledge with admiration the herculean efforts these men have made in gaining as veterinary surgeons that recognition they were justly entitled to by their talent and ability. And to those of them who have not stopped there, but have left no stone unturned to raise the profession along with them, we must all feel something more than gratitude. It cannot be too strongly emphasised, *it is scientific men* we have a dearth of, not practical men, and the sooner this is clearly recognised the better it will be.

But to return to the pupilage question. I find the recommendation is that the pupilage be with "a duly recognised practitioner," whatever that may mean. Does it suggest that there are men who are unfit to be trusted with pupils? If you allow that, it follows that some scheme of selection is necessary. If so, what will be the qualifying and what the disqualifying attributes for the selection? The whole thing is really too absurd, and I cannot believe members will ever allow the institution of any such invidious comparison. But grant its introduction, where are the men who dare accept the responsibility and the consequences involved in drawing any such distinction?

*Annual Registration.*

We come next to consider the suggestion that an annual registration fee be introduced. If with this a circulating library could be set in motion I should heartily welcome the innovation. At present the only libraries that seem of use are those at the schools, and they are naturally reserved for the use of teachers and students; and, so far as I know, the ordinary practitioner has no means of obtaining a perusal of many books which ought to be within his reach. No doubt there is a library at the College, but to the provincial practitioner it is, to all intents and purposes, a dead letter. If it is intended to supply a want of this kind, every one will heartily welcome the registration fee, but, unless there be some apparent benefit to follow, few will appreciate its introduction.

*Fellowship without Examination.*

The next suggestion for consideration is that there be Fellowships by

election other than by examination. With certain restrictions and proper safeguards I am decidedly in favour of its innovation. But it must be very carefully guarded and reserved for those who have done some real work for the advancement of veterinary science.

*Change of Title of R.C.V.S.*

Another recommendation is that an effort should be made to change the designation of the Royal College of Veterinary Surgeons to that of the Royal Veterinary University. If there is the smallest possible chance that the title University can be secured for our College, I trust the profession will unite as one unanimous whole for its promotion, and that individually every single member will do his very utmost to further it, unhesitatingly employing all the influence he can command in the endeavour to bring about such a desirable consummation. Although it is certain that very many would be sorry to bid good-bye to the old name around which many lasting associations have gradually been collecting, and would part with it with much regret, yet I believe even those most attached to the name will view the contemplated change with approbation. Everyone of you must have experienced the undesirable confusion which exists in the public mind at present. Barely anyone outside our own membership knows that any difference exists between the Royal College of Veterinary Surgeons and the Royal Veterinary College. These names being so alike it is difficult for the public to appreciate the difference between the body corporate and the teaching school; and as the latter suffers nothing from the confusion, and has every claim to its name by right of priority, it would be quite futile and equally absurd to expect that institution to change its designation simply because it is erroneously credited in the public mind with many of the doings and functions of the Royal College of Veterinary Surgeons. We are all agreed that some real effort should be made to remove this existing anomaly, and that whatever is to be done must proceed from us. If the name is to be changed, no better designation could possibly be suggested than that recommended, viz., The Royal Veterinary University. In some quarters the name of University is deemed too high for attainment, and cold water has been thrown on the scheme for fear of the effects of the ridicule to be evoked by entertaining such ambitious ideas. Notwithstanding this fear of ridicule I would ask you one and all to unite in a strenuous effort to obtain such an estimable object. If we are successful they can laugh who win; if we are unsuccessful they can laugh who may, we will not be one penny the worse, and no one will think any the less of us for our ambition.

Mr. BLAKEWAY said it was the custom to make no remarks upon the Inaugural Address of the President, but there was so much important matter in the address they had just heard that he did not think they would be doing wrong in asking the President to allow it to be published in their journals. The subjects treated in the address were subjects on which they felt most acutely, and the way in which he had handled them must be most satisfactory even to opponents.

The PRESIDENT said he had no objection to the publication of anything in his address. He could not but take it as a compliment that they should desire it to appear.

A paper on "Infectious Pneumonia in Horses" was then read by Dr. Fleming.

The PRESIDENT said they were extremely indebted to Dr. Fleming for his remarkably able and lucid address upon a subject about which very little had previously been said. Many of them in their practice met with cases of Pneumonia that appeared to be infectious, and which differed decidedly from

what was usually described as Influenza, and yet such cases had never been classed as infectious.

Mr. GIBSON remarked that with regard to infectious Pneumonia, or Influenza really, he had had a great deal of experience of it in stables in Birmingham, and had been very successful in treating it. His method was to generate chlorine gas in all the stables, about 8.30 when the men went to their breakfast, because they could not stand the gas while at work. The gas was generated by means of chlorate of potass and hydro-chloric acid. It was attended to every morning, and the constituents, acid, salt, etc., supplied as needed. He had the gas all through the stables, and he found it very effective not only in Pneumonia but in Glanders and other infectious diseases. They simply let the horses inhale it, and now laid it on habitually in the case of any disease that they considered infectious. In regard to horses with weak lungs, care was necessary, because the gas irritated them, and it would be best to remove them and treat them quietly alone. He used the gas as a preventive. As hygienic measures good drainage and ventilation were necessary.

Mr. T. H. MERRICK said that in the course of his practice he had come across a good deal of contagious Pneumonia, and in many cases he had traced it to bad drainage. One remarkable case which came under his notice occurred in a ten-stall stable in some farm buildings which were recently built. The two horses which were put in the second and third stalls from the top fell ill. They were removed and kept warm and treated with counter irritants, and two more horses were put in the same stalls and they fell ill, but none of the other horses in the stable were affected. Everything was done to the stalls without effect, and he came to the conclusion that something must be wrong with the drainage. An examination was made, and underneath the two stalls in question they found an old muck-hole where loads of filth had accumulated. Six or eight loads were carted away, and after that Pneumonia disappeared from the stable. There was no doubt in his mind that one of the causes of contagious Pneumonia was bad drainage. They frequently found Pneumonia amongst brewery horses in Northampton in a contagious form. He had seen great benefits result from the administration of milk. In some cases they had kept patients alive simply by that means. He had also found great benefit from small doses of sulphate of magnesia.

Mr. DAY said as one who had just returned from six years' study at the antipodes, he had heard Dr. Fleming's paper with great interest. He believed the disease described in it was what was known in the Australian colonies as Bilious Influenza. In a stable of a thousand horses, he had known sixty or seventy or eighty of them infected in one week. It was only on hearing the paper read that it occurred to him that the disease was actually contagious; though in every case in which a *post-mortem* was made they came to the conclusion that Pneumonia was the cause of death. There was no doubt that accumulation of filth formed a hot-bed for the germs of the disease if such germs existed. He had been too far removed from scientific appliances and scientific men to be able to give an opinion as to whether germs did exist. In one large 'bus stable he visited, he found seventy or eighty horses beneath an iron roof, with the thermometer ninety-seven in the shade, and with eighteen inches of solid horse droppings fermenting beneath their feet. In that stable the mortality from Pneumonia was very great. In another large stable of which he had the veterinary supervision, he saw that sanitary matters were carefully attended to, and the drains daily flushed with some form of antiseptic. The result was that he never lost an animal there out of some eighty cases. In Australia it was rather difficult for the veterinary surgeon to secure efficient treatment for horses. The horses there were not

so valuable, and it was only the most valuable that really got proper medical attention. A valuable remedy for all diseases of the respiratory organs there was the oil obtained from the eucalyptus plant. The plant was common, and he believed that its leaves falling into the streams from which the horses drank acted as a natural disinfectant to a certain extent. He felt certain that the contagious Pneumonia described by Dr. Fleming was the disease from which they had been suffering for the last two years in the two great cities of Australia, though it was generally known as Bilious Influenza and some people tried to make out that it was Pink-eye.

Dr. MANLEY said one of the points raised by the paper, in which he took great interest, was that of comparative pathology. During the last year the attention of medical officers had been directed to the question of how far the current epidemic of Influenza among human beings had been concurrent with the epizootic among animals. In Dr. Fleming's remarks he found much imformation in regard to the relationship which existed between contagious Pneumonia in the horse and the so-called Influenza in the human which largely resembled it. Dr. Parsons, of the Local Government Board, had held an extremely interesting investigation into an epidemic of Pneumonia in human beings in the town of Macclesfield, in which it was found that a contagious form of Pneumonia largely connected with zymotic influences had existed in company with a large attack of typhoid forms of Diarrhœa, and so far as Dr. Parsons had traced those two forms of disease, he had, to a great extent, convinced himself that the disease which was known as Influenza amongst human beings was capable of attacking animals and humans alike. The chief point he would like to emphasise in regard to his own experience of Influenza was that it had the power of attacking the serous membranes, and that it had been borne out in Dr. Fleming's remarks that Contagious Pneumonia was most frequently accompanied by Pleurisy, Pericarditis, and acute Hydrocephalus. In one point, however, there seemed to be a difference. His experience of human Influenza was that it was accompanied by extreme Photophobia, and that it was generally relieved by darkened rooms. He would ask whether that would be so in the case of horses; because Dr. Fleming said the patients were to be exposed to as much light as possible. The bilateral character of Pneumonia in its contagious form was also another point in which that form of Pneumonia which had lately proved so fatal in England, followed by Influenza, resembled Pneumonia in horses.

Mr. STANLEY said the subject was especially interesting on account of the large amount of Influenza that had been experienced during the last six months. Personally he believed that years ago they had Influenza of the same character as that which they knew at present. It was no doubt due to an organism of some kind. What it was he was afraid they did not yet know; but it attacked all classes of horse, whether poor or fat, or badly or well kept. He had noticed during the past winter that in fifty horses which were attacked they had not half-a-dozen cases that could be treated alike. Each required separate watching and care, and they had to prescribe differently for each one. In such cases he put good nursing before anything else. Unless they had men who would sit up at night and attend to the patients, his experience was that they died. They lost some horses, and many grew much worse because one of the men was away two nights before they found out his neglect. As to treatment, they had used a great deal of whiskey and a great deal of milk. As for the atmosphere, he believed in letting in as much fresh air as they could without draught. In one lot he had under treatment, the only two deaths that occurred was in consequence of the patients being in boxes that could not be properly ventilated. Where they could get them into anything like a big space, and allow them to move about, they got on a great deal better.

Mr. CHAMBERS asked if Dr. Fleming got accelerated breathing in cases of Infectious Pneumonia. He had had many cases of what they called Pink-eye, but in those he had not found accelerated breathing. There was stertorous breathing from the nostrils, but the flanks should not move more quickly than usual. Among horses that were broken-winded, or that ran from the stick, the disease had been very fatal. He was not sure it was infectious or contagious. He had, however, known a dealer take a horse from a stable where several horses were under treatment, and sell him. When that dealer's attention was drawn to the fact that there was something the matter with the animal's eyes, he said, "Oh, he has had a blow." The purchaser took him home and put him with his other horses, and the disease spread among them. He (the speaker) administered mis-tonica in ounce doses three times a day in half-a-pint of old ale. He put a man with them to feed them a little bit at a time with anything they would eat. He had not found counter-irritants any good, and did not use them. He had had several die, especially horses that were broken-winded, or that would not lie down. He noticed in many cases that horses which took this disease would not lie down until they recovered.

Mr. STANLEY asked if Dr. Fleming could explain whether the disease would frequently be accompanied by excessive lameness. He had had some cases of that kind this winter.

Mr. W. CARLESS observed that the first cases in an outbreak were generally the worst, because they were allowed to develope before the surgeon was called in. It was not unusual for those first cases to prove fatal; but on ascertaining the condition of things, and rectifying faults of management, the cases became milder in type and more amenable to treatment. One marked symptom of the disease was a disposition to death of the skin, and offensive putrid wounds as the result, with an effusion from the infectious serous membranes of turbid fluid, different in colour from what they found in ordinary cases of Pleurisy, and no doubt impregnated with pus cells. He had always used counter-irritants, especially to the chest walls. In the earlier stages it brightened up the circulation. He also kept the legs warm. He had seen good effects from the use of stimulants given in the way of stout, and champagne, if the owner liked to afford it—a wonderful effect from that. Pure air, clean water, and clean stables were also necessary. He had often traced the origin of disease in a horse to having been placed in an hotel stable, many of which were not supervised as they ought to be. Horse-owners should select those hotel stables where the ventilation was good, and the cleansing and disinfection regularly done.

Mr. BLAKEWAY drew attention to the fact that Dr. Fleming's paper was on Infectious Pneumonia, and they seemed to be discussing Influenza. He had met with many cases lately which seemed to be inflammation of the larynx, and little else. He would like to know if Dr. Fleming had seen many cases of Contagious Pneumonia in England?

The CHAIRMAN agreed that there had been a slight misconception of what Dr. Fleming meant to bring before them. Dr. Fleming had in no sense recognised Infective Pneumonia as Influenza. He recognised that these two diseases were distinct and separate, and in no way related, except that they were both infectious and contagious. In Pink-eye they had quite a different train of symptoms from those which Dr. Fleming had described. They frequently met with Pneumonia, especially among young horses, or horses newly introduced to a stable, and, unlike Influenza, which spread rapidly over the country, it was often confined to a small area. It was not spread by the climatic influences that they met with in Influenza. The disease he was alluding to was entirely confined to the lungs. Some years ago at Birmingham he knew one end of a crescent-shaped stable affected while the other parts re-

mained quite free. In other cases they had it was simply double Pneumonia, rather of a typhoid type, very fatal and difficult to handle. The treatment they most used was the simple one of milk. It seemed to sustain the horses and supply them with food, and keep them in better condition than anything else. How it arose in the first case was difficult to say; but, once it had arisen, there was not much doubt about it spreading by infection. With regard to the use of the two words, infective and infectious, he would like to know what distinction Dr. Fleming made between them.

Dr. FLEMING said the subject was rather liable to be confounded with Influenza. They heard every year of Influenza being present more or less in the country. Horse dealers recognised this malady as Influenza, but it was not Influenza pure and simple. The disease they had had for some time amongst their horses was quite a different malady. One of the most important signs of the disease at the first glance was the respiration. In Influenza the respiration was not often much disturbed, but in Infectious Pneumonia the respiration was disturbed from the commencement, and that was one of the diagnostic signs. Not only that, but they would find that the changes in the lungs were entirely different, and it was for that reason he had brought before them the diagnostic signs. The malady prevailed all the year round. For the last four or six years several outbreaks of Contagious Pneumonia had been recorded in the medical journals when there was no general outbreak prevailing. It appeared to be on the increase in this country, and it was necessary they should recognise its existence, and be prepared to act accordingly. As to Photophobia, that was a marked indication of Influenza in horses and man. In Infectious Pneumonia there was no Photophobia. The eyelids drooped from inflammation, but there was no lachrymation. In the two diseases the condition of the eyes was different. Infectious Pneumonia was properly a disease of the lungs. He was anxious to find out to what extent the malady exists in this country. He was satisfied that in most large towns Contagious Pneumonia must be prevalent. In regard to light, if the eyes were affected they should be protected. He was a great believer in daylight and sunlight. His experience was in favour of getting horses suffering from fevers into loose boxes, and giving them plenty of sunlight and fresh air. He was not much of a believer in stimulants, and he found that the less medicine they use to horses the better. If an animal would take food, especially milk, that was a better stimulant than alcohol. There was another distinction between Influenza and Pneumonia. In Influenza a horse would often lie down, showing that the lungs were not involved. In Infectious Pneumonia they would not lie down. As to lameness, that was often a marked feature of Influenza. They knew that in the human subject there were great muscular pains, and no doubt the horse suffered in the same way. If he had used the word infective as applied to Pneumonia, it was not the word he intended to use, but infectious. Infective was applied to the diseased condition of a structure which infected the neighbouring structures, as Cancer. He agreed with what had been said as to the influence of insanitary stables in promoting the disease. There were stables at Regent's Park Barracks during his connection with them which were never free from Pneumonia.

Mr. STANLEY moved, and Mr. MERRICK seconded, a vote of thanks to Dr. Fleming for his attendance and for his paper.

The motion was carried with acclamation.

Dr. FLEMING, in acknowledging the compliment, said it was now eight or ten years ago since he visited that Society, when the brother of the gentleman who proposed that vote was then Secretary. The aim in their papers and discussions should be not only to improve their practice but their scientific knowledge. If they could improve the scientific aspect of their

profession, especially in assimilating the diseases of animals with those of men, they would be doing a great service. To keep pace with the times they should have at their meetings as many scientific papers as possible.

The CHAIRMAN brought under the notice of the meeting the proposed memorial to the late Mr. Steel, and said he should be pleased to receive any names to the subscription list.

Mr. BEDDARD moved and Mr. STANLEY seconded that the next meeting be held at Wolverhampton.

Mr. JONES proposed Leicester and Mr. WIGGINS seconded.

On the vote being taken Wolverhampton was adopted by a large majority.

The members of the Association afterwards dined together at the Hop Market Hotel.

## SCOTTISH METROPOLITAN VETERINARY MEDICAL SOCIETY.

THE summer meeting of the Society was held in the Salutation Hotel, Perth, on June 12th. The President, Mr. James Clark, F.R.C.V.S., Coupar Angus, occupied the chair, and there were present Professor W. Williams, Principal, New Veterinary College, Edinburgh; Professor W. O. Williams, Messrs. George Cowe, of Balhousie; Andrew Hutchison, Dundee; Young, editor of *North British Agriculturist*; T. Matthew Inglis, Forfar; Jas. Anderson, Forfar; James Peddie, Perth; David Constable, Inchture; A. MacGregor, Crieff; James Kay, St. Martin's; R. S. McArthur, Perth; R. McNair, Blairgowrie; A. Spreull, Dundee; A. J. Kay, Lochee; J. Borthwick, Kirkliston; C. Cunningham, Slateford; A. Boyd, Melrose; R. Rutherford, Edinburgh; P. Moir, Edinburgh; and representatives of the press.

The minutes of last meeting were taken as read, and approved. Six members nominated at last meeting were duly elected, and the following gentlemen were nominated for membership: Messrs. Cowe, Hutchison, McArthur, MacGregor, Peddie, McNair, Kay, Inglis, and Anderson.

Principal W. WILLIAMS then exhibited a series of photomicrographs of the section of a lung of an American cattle beast slain at Deptford by order of the Board of Agriculture as suffering from Pleuro-pneumonia. The consensus of scientific opinion, he said, as expressed by the officers of the Board of Agriculture and supported by Professors Walley and M'Fadyean, Edinburgh, was against him. They said that what was found at Deptford was contagious Pleuro, and that therefore American store cattle should not be allowed to be landed in this country for feeding purposes, but slaughtered, as hitherto, at the port of debarkation. Recently Dr. Wray and another gentleman—representative men—veterinary inspectors at Deptford, called on him and brought him a piece of lung which had been condemned as having Pleuro-pneumonia contagiosa the day before by Professor Brown and the authorities of the Board of Agriculture. He (Professor Williams) examined it very carefully, and he must say that to a non-expert there was a great similarity; but there was one great thing wanting. Did they ever see Pleuro-contagiosa without coagulation of the blood in the lung—without the vessels being blocked with the coagulated blood? In this case there was consolidation of the lung. There was Pleurisy; but there was no coagulation of blood within the vessels, and that marked the disease distinctly from Pleuro-contagiosa. He had had forty sections prepared by two persons, and those showed distinctly the difference between the two diseases. If they were one and the same thing his eyesight must have failed him, and if the microscope and photomicrograph were of no use in determining the nature of one disease from that of another, the sooner they abolished the study of histology from their curriculum the better.

Mr. SPREULL said that, however, valuable those plates might be from a

scientific point of view, the ultimate test of all the questions to which Professor Williams had referred was the test of inoculation on the living animal in order effectually to say whether it was contagious Pleuro or simple Broncho-pneumonia.

Mr. CUNNINGHAM asked if any one had ever inoculated with the material of common Broncho-pneumonia. Hitherto the older practitioners had been in the habit of thinking that they could diagnose Pleuro as well without the microscope as with it. If what Professor Williams had said was true, and if the only real judges were those who could use the microscope, that was a very serious question. Any one could diagnose a common case of Pleuro, but in the case of this lung, said by Professors Walley and M'Fadyean to be suffering from Pleuro, the microscope is applied, and Professor Williams and Mr. Bowhill said that it was not real contagious Pleuro, but a simple form of Broncho-pneumonia. It would be a great favour if Professor Williams would describe the appearance of the lung.

Professor WILLIAMS said he was glad to show the photomicrographs, but he did not feel inclined to enter into discussion.

Principal WILLIAMS subsequently read a paper on "Pink-Eye" in horses, as a preliminary to one more exhaustive on the subject of Influenza, that is to be read by him at the meeting of the National Veterinary Association at Doncaster, on July 21st and 22nd. An interesting account of the origin of the disease in America, its similarity to a disease that is described in the ancient classics, and an enumeration of its many phases, were graphically presented by him. He stated that the mortality, in his own experience, was under one per cent. He condemned *in toto* the administration of alcoholics and application of counter-irritants. He believed that alcohol diminished the temperature by robbing the blood of the patient of the oxygen that its laboured breathing showed it was in want of, and that it was fighting for. Soothing remedies, as bromide of potassium, hot water applications, good nursing, pure air, and an abundant allowance of cold water formed his main line of treatment. Carbonate of ammonia he had found most useful in certain stages. But the basis of all treatment of disease, as expounded by the great John Hunter, was to remove the cause, allay undue irritation—not irritation, as there is always such in disease, but undue irritation, and to keep up the strength.

Mr. CUNNINGHAM (Slateford) said the most important topics dealt with in the paper were the administration of alcoholic stimulants in Influenza, and the application of counter-irritants to the sides in chest disease. With much that Professor Williams had said he agreed, but he confessed that he had treated a good few cases of Influenza, giving moderate doses of spirits and ale, and had found no bad effects, but the contrary from the practice. Many cases of Influenza really required little medical treatment—a good, cool, comfortable bed, warm clothing, keeping bowels, skin, and kidneys in working order, and simply nursing the patients over their illness—being almost all that was required. Still in extreme cases, where prostration is great, and strength and spirits low, a few glasses of whisky or a bottle or two of ale would surely do no harm; judging our patients by ourselves a little spirits and water in one glass would be preferred to a little ammonia and water in another. With regard to blistering in chest disease, of which so much had been heard lately from agricultural papers—many severe cases of Pneumonia or Pleuro-pneumonia would, as was well known, recover if simply treated in cool boxes, with good, fresh air around, and with or without an occasional application of hot water to the sides, and no blistering. Still, in other instances, the rubbing in of a little liquid blister of mustard really appeared beneficial. Mr. Cunningham thought that no hard and fast line should be drawn as regards treatment, but a little common sense exercised; treating each case as appeared best under the circumstances in which it is found.

Mr. R. RUTHERFORD said that he was entirely in accord with Professor Williams in his treatment of Pink-Eye, and he would like to speak from the point of view of a general practitioner in a large city, meeting disease in all its forms according as it may be provoked by the surroundings. The treatment advocated by Professor Williams had proved to be most successful, and particularly so when the patients were placed in the Principal's comfortable loose boxes. He had referred to the fact that the horses of the cavalry regiment at Edinburgh to the number of about fifty had been affected with the Pink-Eye during the last outbreak, and had all recovered, the veterinary surgeon in charge following closely the Professor's views of treating the disease. Cavalry horses, however, were most favourably situated, as on the slightest symptom of illness, they could at once be withdrawn from work. In general practice matters were very different. He held it was no discredit to a practitioner that deaths should occasionally occur. He had been called out to cases that were hopeless from the start. In large stables he had found his great difficulty in preventing the spread of the disease. Preventive measures carried out by him were to separate the sick from the healthy, shut up drinking-troughs, no man in charge of patients to be in contact with the healthy, give free abundance of air, wash walls, etc., with warm water and Jeyes' Fluid, abolish peat moss bedding, which he was most decidedly of opinion absorbed and retained the contagium. His treatment of the disease, in a general way, was the administration of salines. As a first draught, he always gave spirits of nitre, ether, with carbolic acid in linseed oil. The latter had an impression on the morbid elements in the blood. Hyposulphite of potash, hot-water blankets, no blisters. He had given small doses of alcohol, and had seen no bad effects.

Mr. SPREULL remarked that he had met several very severe cases of Pink-Eye in his practice, which had ended fatally. Marked symptoms of derangement of the brain in some, in others of the heart. Purpura Hæmorrhagica supervened in some cases, lasting only a few hours. Great effusion in the chest, relieved by tapping, and ultimate recovery of the patients, he also recorded. He was pleased to find that his general treatment was on the same lines as Professor Williams, but he approved of weak mustard applications to the chest; and if Pneumonia is present, strong mustard poultices.

Professor OWEN WILLIAMS said that the exercise of patience was very necessary in treating Pink-Eye. He believed many young practitioners destroy patients' chances of recovery by giving powerful stimulants to counteract depressions. To wait until the crisis of the disease, and give the patient quiet and rest, will prove more efficacious than administering stimulants through fright. He believed that ammonia was much preferable to whisky as a medicine in Pink-Eye, as the former fluidified the blood and stimulated the system. Manure should be constantly removed or disinfected during the disease.

Mr. HUTCHISON, in proposing a vote of thanks to the Principal, said he had been greatly interested in his remarks about American cattle, and only wished that they would make Principal Williams Inspector. They would have a better chance of getting States cattle. He could not speak from practical knowledge of the subject of the Principal's paper, but he said that it was just another case of doctors differing. The whisky treatment seemed to be the crisis in it. Principal Williams' arguments would be read with much pleasure by those who advocated teetotalism. Personally he thought it better not to force nature, and, from his own little experience, he would side with Professor Williams in the argument.

Mr. COWE (Balhousie) seconded, remarking that the longer he lived the less alcohol he tasted. He thought that the veterinary profession was not treated by the country in the manner in which it ought to be, and advocated

the highest possible teaching for veterinary surgeons in order to preserve the valuable stock throughout the land. The country was deeply indebted to that Society, and to none more than to the worthy Principal.

The proceedings then terminated. PETER MOIR, *Hon. Sec.*

## LINCOLNSHIRE VETERINARY MEDICAL ASSOCIATION.

A MEETING of the Lincolnshire Veterinary Association was held at Boston on June 11th. The proceedings commenced in the Town Hall at half-past twelve o'clock. The President, Mr. W. G. B. Dickinson, F.R.C.V.S., of Boston, occupied the chair, and there were present Mr. T. Greaves, Manchester; Mr. R. W. Clarke, Horncastle; Mr. B. Freer, Vice-president, Uppingham; Mr. F. L. Gooch, Stamford; Mr. J. H. Goodhall, Melton Mowbray; Mr. J. T. Holmes, Bourne; Mr. Osborne, Fulstow; Mr. F. W. Reeks, Spalding; Capt. B. H. Russell, Treasurer, Grantham; Mr. T. A. Rudkin, Grantham; Mr. J. Smith, Hon. Secretary, Huntingdon; and Mr. T. Smith, Vice-president, Market Rasen. There were also present several visitors, including Dr. Pilcher, F.R.C.S., J.P., Mr. Cosier, Mr. Martin, Mr. Williams, Mr. Wortley, Mr. Howse, Mr. L. Mitchell, and others.

Letters of apology were read from Dr. A. M. Adam, J.P., Dr. W. Clegg, J.P., Prof. Walley, Edinburgh; Prof. J. W. Axe, London; Prof. Pritchard, London; Prof. Williams, Edinburgh; Messrs. Axe, Doncaster; W. A. Field, Grimsby; J. W. Gresswell, Peterborough; C. Hartley, Lincoln; R. T. Hardy, Sleaford; H. Kidd, J. Mackinder, Peterborough; F. W. Wragg, London; W. Woods, Wigan.

The HON. SECRETARY read a letter from the International Congress of Hygiene and Demography asking the Society to appoint delegates to attend the meetings in August next, and stating that any donation towards the expenses in connection with the organisation of the Congress would be thankfully received.

The PRESIDENT said they would do well to send delegates to the Society.

Mr. GOOCH, Stamford, agreed with the remark of the President, and proposed that the President and the Hon. Secretary be nominated as delegates.

Capt. RUSSELL, Grantham, seconded the proposition, and expressed a hope that whoever were elected delegates would make a point of attending the Conference. He also suggested that they should add to the proposition that the subscription to the Congress be paid by the Association. If they sent delegates they ought to be subscribers, and they ought to pay the delegates' travelling expenses as well, but not the hotel expenses.

Mr. GOOCH accepted the suggested addition to his proposition, and the following gentlemen were elected delegates: The President, the Secretary, Mr. Freer, Mr. Goodhall, and Mr. Gooch.

The SECRETARY read a letter from Mr. F. Raymond, Hon. Secretary to the "John Henry Steel Memorial Fund," placing the Memorial before the Association, and soliciting a subscription.

Mr. GOOCH said he was a member of the original committee of the Steel Testimonial Fund, and was a personal friend of Prof. Steel's during his stay at college. He admired him very much as a teacher, and if the Society could see its way to give a subscription, he was sure it would be money well spent. Prof. Steel did everything in his power to increase the status of the veterinary profession, and both as a student and as a friend he admired him very highly.

Capt. RUSSELL said he was also a member of the original committee, and if the letter had not been read from the Secretary of the Fund, he had intended to ask the members present to give him a contribution towards the memorial. If, however, the Society was going to take it up, it would be un-

necessary for him to say anything about it. He asked whether anybody had any idea as to what form the memorial was to take.

Mr. GOOCH said the promoters were endeavouring to raise sufficient money to establish a scholarship open to all schools, to be called the "John Henry Steel Scholarship," and to procure a bust.

Mr. GREAVES thought it was a matter well worth consideration. It was right that they should recognise the labours of their veterinary surgeons. In this case Steel had displayed great ability and great industry to serve their profession, and it was as little as they could do to recognise the value of those services. In London the veterinary surgeons were very anxious to raise sufficient money to establish a scholarship, which would be of great service to the profession in many respects; and as regarded the bust, that was a proper thing to have also. He recommended the memorial very strongly to them. He was not on the committee, but he had taken a great interest in it, and he was a subscriber, and he hoped that every member of the Association would be a subscriber, or that the Association itself would make a liberal subscription towards the fund

Capt. RUSSELL suggested that a subscription should be made in the room, and said that if they got a decent sum it would not be necessary to call upon the funds of the Association. If they were going to subscribe £8 or £9 to the International Congress, they would not have much money to spare for the Steel Memorial or anything else.

A subscription was made in the room, and the sum of £9 6s. 6d. was received.

The PRESIDENT then read his address as follows:—

GENTLEMEN,—I must express my gratitude to you for having conferred upon me the honour of electing me your President. This year is evidently one of great importance to us as veterinarians, owing, as you all well know, to the changes which have already taken place amongst those who act as our governing body. None can foresee the benefits we shall derive by what has been done, or by what is promised, or what will be the ultimate outcome of the revolution in the Council of the Royal College of Veterinary Surgeons. It is far from my intention to attempt in any way to criticise or comment on what is or what has been, but to remark on the necessity and importance of what ought to be to benefit us as a profession, and so raise our social position throughout the length and breadth of the British Isles, to that standpoint which, as yet, we have failed to reach.

This, gentlemen, is what ought to be, that is, a better feeling existing; a firmer tie of unanimity between us and the medical profession. It must be very gratifying to those who are interested in our welfare to notice the names of some of our leading veterinarians connected with the Congress of Hygiene and Demography. The relationship of the diseases of animals to those of man, and the relationship and co-ordination of those who minister to the wants of animals and man.

I think if we look back a century into the history of human surgery, we shall find that operations were then conducted on no principle whatever when this science claimed to be what it is—when those who took an interest in it were men who experimented on living animals. Without such advantages as our patients offered, the present perfection of surgery would have been impossible. Hæmorrhage, after amputation, was arrested by the actual cautery, and this method is too frequently adopted by us in the present day. Some surgeons applied arsenic and corrosive sublimate to the bleeding vessels. This practice accounts for the extensive mortality after amputations caused by the poison of the bichloride. In excision of the breast one surgeon of old advised the use of a red-hot knife, or a knife made of horn or wood dipped in nitric acid, by which means he imagined the vessels would be

cauterised as the incision was made. Amputation at the hip joint was first attempted in man after many animals, especially dogs, had undergone the operation. These experiments again went to prove how many a valuable life has been saved which otherwise must have been sacrificed. Paracentesis thoracis was perfected on living dogs and rabbits. The celebrated John Hunter founded the idea of comparative pathology on the observations and experiments he made on living animals. Ligature of the iliac artery for aneurism of the femoral was perfected and successfully performed in 1806, but after many attempts on dogs.

Living animals were the victims of experiment, but at the same time, they were essential factors in scientific research and perfection of surgery, namely: The successful removal of the upper part of the human stomach, occluded with Cancer, a disease which in that situation has never been proved curable by other means than by surgical interference. Péan, a Paris surgeon, gained his proficiency and confidence by operating first on the brute creation, then on man. This particular operation was not a success, but Prof. Billroth, of Vienna, shortly afterwards was successful. Through the energies and advantages offered to some English surgeons by Veterinary Surgeon Charlice, in 1854, it was found that the carotid artery of a sheep could be divided without hæmorrhage. Section of the ovarian arteries of a cow by the same process yielded the same result. Had it not been for the service rendered to experimentalists by our patients, human surgery would have long remained a tangled network of empirical knowledge handed down by tradition.

Objection has been taken by many that the difference in economy of animals of different species, does not warrant the application to all of similar conclusions. Granting the points of difference, it cannot be denied that the points of analogy in the general structure and functions of all animals of the same class infinitely preponderate.

The advantage which this analogy has afforded, has helped in a number of instances to elaborate the science of anatomy and physiology. Pathology, too, admits of a similar illustration from its teaching us the physiology of disease—not of any new function or element, but alterations of normal functions or elements.

There is a differential matter to consider with regard to the maladies which the higher and lower forms of animal life fall a prey. For instance, Pneumonia in an infant is analogous to Pneumonia in the horse, but there is no comparison between this affection in man and horse, because man being more highly developed than the horse, it is fair to suppose the medical man has much more to encounter than we have. He may be assisted more in his diagnosis, but he has to listen to imaginary complications which constantly emanate from the minds of many of his patients. The doctor, however, is spared all this from the infant, as we are from our patients.

We may even look a little further, and inquire into the differential action of drugs. Substances, in the majority of cases, act with great similarity on man and animals; there are various phenomena still in obscurity on this point which time only can bring to light. Degree and quality are distinct things and should not be confounded, yet they frequently are; and because it requires as much poison to destroy a small animal as it does a man, we are told that medicines act differently on man than on the lower animals. Susceptibility may answer this question, but when the impression is once made it is of the same character in each case. Susceptibility is governed by the state of development the cerebrum has reached, man being more highly organised than any other living creature; hence his hypersensitiveness to the action of drugs which act upon the cerebrum.

Our work cannot be balanced in the same scale as that of the physician; nevertheless, there is no reason why we, who have the love of animals

deeply cherished—and as Englishmen yield for it to no nation—should not take up our position on an equality, from a scientific point of view, with our sister profession.

Another important factor which I wish to draw your attention to, is the science of therapeutics. A most important part of our profession, and a science which I think will be universally acknowledged we are sadly deficient in. I have remarked on various occasions the limited amount of knowledge assistants possess of the old and new remedies employed in the treatment of disease; plainly showing that this important branch is overlooked in the bringing up and training of these aspirants to the profession. Why should we be behind in the knowledge of the numerous medicinal agents that are introduced week by week and month by month in the journals of the sister profession? Are we to lie down and be satisfied with a broad view of the action of medicine, by having the meagre knowledge that opium and its alkaloids relieve pain, that aloes and Epsom salts produce purging, and that cantharides produce a blister, but learn nothing as to the therapeutical and physiological action of these agents? I, for one, think not. I have seen the necessity for studying the numerous new agents that have been introduced, and are constantly being brought forward for the treatment of disease, and many of the various new substances I have found from clinical observation to be of intrinsic value in the treatment of the various maladies which must arise from time to time. I think it will not be denied that our literature in the physiology and pharmocology of drugs has been sadly neglected, but I am glad to find that the editors of different journals are now introducing in their columns articles on the various new remedies which are in keeping with the journals of our sisterhood, and ought to be studied by young and old. These remarks are in no way meant disparagingly against the ever valuable old remedies; still, after gaining a full appreciable conception of the old, it is as well to get an introduction to the new.

In conclusion, I would say, let us row together in the same boat—each put the helm in the same direction, with a resolute determination to leave the profession better than we found it. Contributions to our journals, voluntary leaders on topics practical or scientific, making laws in medicine and therapeutics of one's own, and discarding this remedy or the other, simply because others have advocated it, until at least we ourselves have proved its efficacy or usefulness.

Admit mistakes, for it is by our mistakes that we learn. Some men assert that they never make mistakes, when all the time they make the greatest mistake of all by trying to prove this assertion. The act of trying to prove superiority is a great and unpardonable error. There is no such thing as impeccability. We all occupy the same position in the same room, namely, the room for improvement, and if we are so ignorant as to think otherwise there is no help for us. Let us all endeavour to live for

> "Our cause which needs assistance
> Against those ills which need resistance,
> And for the good that we can do."

Mr. GREAVES said he had listened with very great pleasure to the interesting address just delivered, and he hoped the President would permit it to be printed, so that they might all have an opportunity of reading it and studying it. There were many points in it that would bear pondering over, and they might improve themselves by pondering over them. There were many points in the address he could wish to speak upon, but it was not customary to discuss the various points of an inaugural address. It was not like a paper read for the purpose of being discussed, unless the President desired it. If the President desired that his few remarks should be criticised and discussed,

then it was open for any member of the Association to do so, but as a rule the inaugural address was not discussed, and the usual custom was for a member to propose a vote of thanks to the President for the able manner in which he had brought forward his subject. He should not, therefore, take upon himself to discuss the address, but had great pleasure in saying he had felt great interest in listening to the President; he hoped the paper would be found to be of great service to their profession. He proposed a vote of thanks to Mr. Dickinson for his address.

Mr. RUDKIN seconded.

Dr. PILCHER, F.R.C.S., said: With your permission, Mr. President, before the motion is put, I should like on behalf of the profession which you have done much honour to in your address to-day, to say how deeply surgery is indebted to the work of your profession for the signal advances it has made during the last half century at least. I think there is something fitting in the character of your address, as you perceive a great effort has been made to secure from the Board of Trade power to establish and organise a company of research. At present the Board of Trade do not seem to be able to help us. Sir Michael Hicks-Beach seems to be very much afraid of the opinion of effeminate men and sentimental females, who have hitherto had a passionate desire to save frogs, cats, and dogs from anything like discomfort, whereas they do not turn their attention to the roads which are so remarkable for the agony which they give to a higher class of animal in every hour of its existence—at least in our neighbourhood. I allude to the condition of the roads. I wish these very estimable people could be distracted from their keen desire to alleviate the sufferings of cats and dogs, and could be induced to pay a little more attention to their friend—their best friend—the horse. I sympathise very deeply with you in the feeling that you have for a nearer approach, upon broad principles, to the enquiries which are necessary both in the higher and lower departments of animal life—for the establishment of a true pathology, and I congratulate this society upon the work it is doing. I happen myself to be this year in office, and about soon to relinquish, in a branch of the British Medical Society, and I am sure if my successor, or the Council with whom I act, could have a voice in the matter, it would be to congratulate you upon those efforts, which, through the language of your President, you are making for the advancement of the highest knowledge of animal life in its broadest and truest sense. I have had pleasure in being permitted to be present to speak to the resolution which has been proposed by Mr. Greaves.

The resolution was carried with acclamation.

The PRESIDENT thanked Mr. Greaves and Mr. Rudkin for proposing and seconding, and the company for according him the vote of thanks. He also thanked his friend, Dr. Pilcher, for his kind remarks and for his goodness in being present, as he knew, at considerable inconvenience to himself. He assured them that he was most sincere in everything he had said in his address, and said they could never expect to achieve that end which many of their predecessors had hoped, and which many among them at the present time hope to attain, unless they went hand in hand with the medical profession, and he hoped that in the near future that would be so.

Mr. HOLMES proposed that the next meeting be held at Peterborough. Mr. SMITH seconded, and it was carried.

Mr. GOOCH proposed a vote of thanks to the President for occupying the chair. Mr. GREAVES seconded, and it was carried.

Mr. FREER proposed a vote of thanks to Dr. Pilcher for his presence, and said that veterinarians were always glad to meet any gentleman of the medical profession, especially one so well known as Dr. Pilcher.

Mr. GOODHALL seconded, and it was carried.

This concluded the ordinary business, and Mr. W. G. B. Dickinson, the President, then gave a hypnotic séance, which was witnessed with deep and almost entrancing interest by the veterinarians and visitors assembled. Mr. Dickinson has been a student of hypnotism in all its phases for several years, and has, by dint of practice and perseverance, become quite an expert in the art. There are very few works on hypnotism that Mr. Dickinson has not made himself thoroughly conversant with, and by applying himself closely to what is at present one of the unravelled mysteries of the age, he has been and is still able to produce the most marvellous results. Thus far Mr. Dickinson's séances have been conducted in private, and in the presence of a select number of friends, but it is questionable whether he will be allowed to conceal his abilities from the public gaze in the future. On Thursday Mr. Dickinson had the presence of three subjects—two youths and a coloured gentleman of maturer years, and the influence the operator exercised over their wills and over their minds was most surprising. It should be stated at the outset that the operator's method was entirely free from clowning. At many séances by so-called professors of the art, horse-play has reigned supreme, and the antics of the influenced bipeds have been a disgrace to, and an outrage on, humanity, with the result that the science has been wholly regarded as an imposture. To see a fellow eating candles, drinking swill, or tearing about the building like a madman is not an edifying spectacle, and it was scarcely to be wondered at that the art sank into contempt. No buffoonery of this kind, however, marred the charms of Mr. Dickinson's séance. He displayed his science in a scholarly and gentlemanly manner, as befitted the intellectual audience he had before him. A noteworthy feature of the performance was that the operator never suggested to the subjects what he required of them. A programme of experiments had been prepared, each experiment being numbered, and when any member of the audience desired a particular experiment to be tried, it was indicated by the number only, and then not in the hearing of the subjects. The subjects were under the influence of the operator—who did not use a disc—within a few minutes after entering the room. They were made to believe they saw swarms of beetles and scores of rats; they were affected with fits of uneasiness and unable to sit still; they suddenly experienced the shock of a pin-prick in sitting and standing postures; they were paralysed; and several other similar experiments already well known. One very wonderful feature was the hypnotism of a piece of flannel, and placing it round the neck of one of the subjects chosen by the audience, whereby sleep was produced in a given time (three minutes) at will by the operator. A glass of water was also hypnotised, and being placed amongst a number of similar glasses, was afterwards detected by one of the subjects. A strong proof of the operator's ability was provided by his depriving one of his subjects of the sense of smell. A bottle of very strong smelling salts was examined by the audience, and the subject afterwards attempted to inhale it most vigorously, but declared his inability to smell anything. Experiments in rigidity were tried, and with surprising results. One subject balanced himself by his hands on the backs of two chairs for nearly twenty minutes. The subjects were placed in a hypnotic trance, and by command of the operator, when they awoke they sang and danced, much to the amusement of the audience, the fun being greatly increased by the operator stopping one of the subjects in the middle of a note, and afterwards causing him to resume where he had made a halt. One subject when in a trance was presented with a pack of blank cards, to several of which he gave a name, and after they had been marked and shuffled by one of the audience he showed his consistency by reproducing them from the pack. But the most wonderful item on the programme was that in which one of the subjects was placed in a hypnotic trance, and blindfolded to make assurance

doubly sure, and then played "nap" with three gentlemen from the audience, who were complete strangers to him. At first some of the audience were sceptical and inclined to scoff, and knowing this Mr. Dickinson attempted and succeeded in making a truly marvellous experiment. He hypnotised the hand of one of his subjects, and then passed a darning-needle through the flesh, and instructed one of the audience to withdraw it. The subject during this operation evinced no signs of pain whatever. This experiment created a great impression, as also did one in which a subject was placed in a state of rigidity whilst in a standing position, and then drawn to the ground by the operator's magnetic influence, and subsequently caused to draw the head and the heels together until the body formed an arch. In another case the hand of the subject was fixed upon his head, he being unable to move it. To test the genuineness of this experiment the operator called upon any member of the audience to attempt to remove the hand. The challenge was accepted, every endeavour being made to accomplish its removal, but without success, the hand remaining in the position first placed, and the subject being lifted bodily from the ground. Several other experiments were performed, and at the conclusion of the séance, which occupied a little over an hour, Mr. Dickinson was warmly congratulated upon his success, and they who were at first dubious were the loudest in their praises.

In the afternoon the company dined together at the Peacock and Royal Hotel, Mr. Dickinson presiding, and Mr. Smith occupying the vice-chair. After dinner several toasts were submitted.

## CENTRAL VETERINARY MEDICAL SOCIETY.

THE ordinary monthly meeting was held at the First Avenue Hotel, on July 2nd, 1891, the President, Mr. Samson, in the chair.

The SECRETARY, Mr. H. G. Rogers, read letters from Messrs. A. Broad and S. Villar, thanking the members for electing them Honorary Fellows.

A letter was next read from Mr. Hepton, of Sherbur, Yorkshire, who stated that he had been nearly ruined by an illness, and asked for assistance to tide over the heavy loss he had sustained.

The CHAIRMAN remarked that it would be interesting to know whether this case had been before the Yorkshire Society. On the proposition of Mr. Edgar, seconded by Mr. Raymond, it was agreed that the secretary acknowledge receipt of the letter and communicate with the Yorkshire Association.

A post card was read from Professor Walley regretting his inability to attend.

A specimen was forwarded by Professor Shave, and in the unavoidable absence of that gentleman it was agreed to consider it at the October meeting.

The following names were submitted for election at the next meeting:—Stephen Edward Holmans, Lee; T. G. Garry, Clapton; Albert Wheatley, Reading; W. A. Wright, 95, Abbey Road, St. John's; W. Matthews, Royal Horse Guards Blue.

The next business was the appointment of delegates to the Congress of Hygiene and Demography.

The CHAIRMAN said at the same time they could consider what sum they would subscribe towards the funds.

Mr. HURNDALL proposed that the Council should be recommended to contribute £5.

Mr. Wragg seconded the proposition, which was carried.

The following were then unanimously appointed delegates:—Mr. Raymond, Professor Penberthy, Mr. Hunting, The President and the Secretary.

Mr. WILLIS submitted a specimen in the shape of a fractured rib. He said it was the first rib on the right side of a harness horse which fell down in Bishopsgate Street on the 16th May. He partially got up again and then lurched forward, not being able to walk for excessive lameness. When he saw him the same day, the whole of the right fore limb was hanging down. The scapula and the whole of the upper part of the limb were below their normal position. The weight rested on the toe of the fore foot; when compelled to move, the elbow descended, and the limb gave way and seemed totally incapable of bearing a weight upon it. On the Thursday following, the 16th May, the horse was destroyed. When it was killed it was suggested that the lameness was due to sprain of the triceps muscle. He thought there was a similar case some time ago, when some one suggested that the rib was fractured in slaughtering. In slaughtering this horse, he took the precaution of tying the animal's head up. He thought they would see from the specimen that the fracture took place some time before the animal was killed, because the ends were worn.

The CHAIRMAN said perhaps gentlemen there would give them some information respecting similar cases.

Mr. HUNTING said he was afraid he was partly to blame for having suggested that the fracture of the first rib in the case just alluded to might have occurred in poleaxing. He certainly had heard it from horse-slaughterers, who recognised it as an injury that did occur in their work. Mr. Willis's account itself showed that it might occur in slaughtering. If he could fracture a rib in the street why could it not occur in poleaxing? This was not a new case. In the other case the fracture was clearly not recent because there was a lot of bony deposit round the broken ends. These cases were extremely interesting as adding one more to the conditions generally known as shoulder lameness. Until Mr. Byerley reported his case—and he thought there was another before that—no one would have dreamt that these so-called shoulder lamenesses were due to the fracture of the first rib, and he was by no means certain, even now, that any man in that room would correctly diagnose the next case that he came across. It simply came to this, that they had three or four definite conditions which were now known as causing this dropping appearance of the shoulder.

Mr. WRAGG said the case which Mr. Hunting referred to occurred in his (the speaker's) practice, and it was singular that this case fell in Houndsditch, very close to the locality in Mr. Willis's case. In his case there was a fracture of both first-ribs, and the position of the limb was exactly the same as described by Mr. Willis. He stood a great deal better on the off leg than on the near, but he could bear very little weight on the near limb. He utterly failed to diagnose the case himself. Professor Pritchard saw the case one day, and gave it as his opinion that it was fracture of the fore rib.

Mr. HUNTING said he should like to know whether in these cases there was any quivering of the muscles just in front of the root of the brachii?

Mr. WILLIS said there was nothing of the kind in his case.

Mr. J. W. DOLLAR drew attention to the considerable rounding of the edges of the compact structure of the bone in this case. It seemed to him to point to the fracture having been in existence some considerable time, as this condition was not brought about in a few days.

Mr. EDGAR asked whether the severe lameness was really due to the fracture of this rib, as the fracture must have been in existence some time. Was it absolutely certain that there was no other cause of lameness?

Mr. WILLIS said there was an injury to the small head of the triceps, but he could hardly think that that was the cause.

Mr. HURNDALL asked whether the horse had at any previous time been lame.

Mr. WILLIS said he had been lame in his feet all the time he had known him, but he never supposed him to be lame in the region of the shoulder.

Mr. WILLIS, in reply to Professor Penberthy, said he had simply boiled the specimen and put it on a shelf. He had not applied the knife to it. Mr. Rogers saw the bone in its fresh state and it was polished then.

Professor PENBERTHY said he really saw nothing but what was compatible with the fracture of the bone four or five days before the animal was killed. There was no evidence of any reparative process going on. If he were asked his professional opinion, he said he should certainly say the fracture had taken place within a week. It was not the most compact part of the rib. Certainly it was rather smooth, but that came soon with handling the bone. He should think the rib might have been broken at the time of the accident mentioned by Mr. Willis. The absence of any attempt at repair was his reason for forming that opinion.

Mr. DOLLAR thought there was something to be said on the other side. He could not imagine that handling would round every portion of the bone, which was the case here. Further than that there was rather a peculiar thing about this bone. There was a fissure, and it was impossible to bring the fractured portions into apposition along this line. As to how it came about it was rather difficult to say. It looked very much as though this portion of the bone represented by the fissure had been completely absorbed, and that view was borne out by the fact that there was a marked absorption of bone at this part. For that reason he thought it was perhaps worth considering whether the accident might not have been the result of the previous fracture of the bone, as in contradistinction to the bone being fractured as the result of the accident.

Mr. RAYMOND asked whether there was any pus around the bone, and Mr. WILLIS replied in the negative.

Mr. ROGERS said he saw this bone in its fresh state, and it showed exactly the same amount of polish then. He quite followed Professor Penberthy that in a fracture of six weeks or two months' standing there should be some attempt at repair. He understood that the horse stumbled, partly reared, and came down on the leg. It was an aged animal, and no doubt the bone was fractured at that time.

Mr. F. C. MAHON then read the following paper on Variola Equina:—

Mr. PRESIDENT AND GENTLEMEN,—In introducing the subject of "Variola Equina (Horse-pox)," is it a recognised or prevalent disease in this country?" to your consideration this evening, I feel the honour of being permitted to do so before such an assembly, but am fully aware that the many interesting points in connection with a study of the Variolæ as a whole cannot on this occasion be fully embraced, and I sincerely trust therefore that the many imperfections in this essay may receive every indulgence at your hands. My objection in introducing the subject of "Horse-pox" is two-fold: to render some account of what is known to us of the subject, and while briefly comparing Horse-pox with a few of the important affections with which it is more easily confounded, to gather from your varied experience some further knowledge respecting a disease which, to quote from medical authorities, "has been and is still doubted, overlooked, or incorrectly diagnosed by veterinarians in this country.

Variola Equina (Horse-pox) has at different times been known also as Constitutional Grease, Loy's disease—German *Mauke*, French *Variole du Cheval*, Hindustanee or Bengalee *Gootry—Goree Boshunto*. It may be defined as a specific, mild or intermittent fever, having in addition an eruption appearing on the skin and mucous surfaces; the result of the entrance into the system of a specific and palpable animal poison; which after a period of latency, passes through the distinct and definite stages of fever, papular,

vesicular and pustular eruption, to be followed by decline. Now the majority of observers state that Equine Variola is only propagated from equine to equine, or to other animals by direct contact. Others, especially American authorities, state that in their experience it appears volatile, as well as fixed, and that it is transmissible by cohabitation. This is in accordance with what is known to occur in connection with the Variolæ of the other domesticated animals. In the transmission of the virus of the disease where the specific lesions are situated on the head and extremities, parts of the animal most constantly in contact with the fodder or litter, we may comprehend how readily an animal when placed where diseased animals have previously been located, will become contaminated. Placed in direct contact, either during work, or in the stable, or on pastures, there is little difficulty in the transmission of the disease. The virulent principle of Horse-pox may obtain access to the system through the matter of the pustules coming into contact with the membrane of the nose, mouth, or eyes, or meeting any raw or abraded cutaneous surface on the limbs or other region of the body. In close, badly-kept stables especially, where animals are crowded together, and cleanliness neglected, the malady may assume serious proportions by way of propagation at a distance.

The life of an animal, food supply, physical constitution, all indicate that the individual susceptibility of different animals even of the same species varies considerably.

Horse-pox happens in an epizootic form, and though it may primarily appear in such a mysterious manner that its spontaneous origin has been accorded by several authorities as a fact, yet contagion plays an important part in its diffusion. The epizooties of Horse-pox are not on a large scale, indeed it appears to be almost the least liable to spread of all the contagious diseases that affect animals.

Soiled forage, close proximity to the diseased, actual contact with the affected parts, stable implements, conveyance of the virulent element by the hands of grooms, farriers, dairy-maids, etc., lying on the same ground or in the same stall, are all sources of extension of this malady.

We do not know the incubatory period of spontaneous, or rather accidental Horse-pox. The incubation of the inoculated disease is from five to eight days.

Though we have no positive facts that one attack confers immunity from another, yet presumably from what occurs with the Variolæ of other animals, there is every probability that the horse can only, as a rule, experience one invasion of the malady.

The diagnosis of this disease is important, as there can be little doubt that in one or other of its forms it may and has been mistaken for Glanders or Farcy, and as I shall endeavour presently to show, approaches closely in some respects to other diseases of a constitutional or local nature. Dr. Edgar Crookshank, M.B., when reading a paper before the Midland Branch of the British Medical Association held at Birmingham, 14th June, 1888, when alluding to some of the communicable diseases of man and the lower animals, said of Cow-pox and Horse-pox—"Jenner was the first to describe the disease which had from time immemorial been known in the dairy counties as Cow-pox, and his publications led to a careful study of the diseases affecting the teats of cows. I need hardly say that, as this disease is one of the sources of lymph employed for affording protection against Small-pox, it is of immense interest and importance. It is therefore much to be regretted that the clinical history of the natural disease in the cow has been until recently so much neglected in this country, both by the veterinary profession and our own. It is commonly supposed that Cow-pox and Horse-pox have been absent from this country during the long period succeeding the outbreaks described by Jenner, Loy, Ceely and Estlin, but inasmuch as outbreaks have

been comparatively common during this period in other countries, it is far more probable that outbreaks have occurred in England, but have been overlooked or wrongly diagnosed." I have a reply to make to this statement presently. From personal observations of Horse-pox in England, in no less than three cases—two, typical in every respect, as far back as 1883, and one in 1887, from which inoculation of the virus in a donkey reproduced the salient and distinctive characters of Horse-pox, I hope to be able to show that my diagnosis of the case, viz., that of "Equine Variola," was justifiable.

One of our greatest authorities on Horse-pox, Dr. George Fleming, C.B., in an able *resume* read before the Southern Counties Veterinary Medical Association last year, stated that "In this country, strange to say, it has seldom been reported, though as to its existence there can be no doubt whatever; and it may be more common than is imagined, because it is generally such a mild disease that the veterinary surgeon's attention is not likely to be directed to it, and probably would fail to recognise it if a case were brought before him." I believe I am correct in stating that, at the beginning of last year, Professor Axe saw several cases of Equine Variola among horses admitted to the Royal Veterinary College Infirmary, and inoculated calves with the lymph from the diseased, with marked and characteristic success.

In character it is an eruptive vesico-pustular malady, the eruption being preceded in the majority of cases by a degree of fever so slight as to be almost imperceptible. The eruption may appear on the skin in different regions, or over the whole of the body; on the nasal or buccal membrane, and, exceptionally, on the conjunctival membrane of the eyes. It most frequently appears on the skin, and is most liable to become confluent, towards the lower extremity of the limbs and inferior parts of the head. The nasal eruption is nearly always accompanied by similar outbreaks in the nostrils and lips. It not unfrequently appears as an epizoötic form. Three or four days before the eruption shows itself, there is a more or less slight amount of feverishness, with diminished appetite and increased thirst. When the integument is to be the seat of eruption, the earliest manifestation is observed in those parts of the skin is a papule, which soon becomes a lenticular prominence, which, when felt between a raised fold of skin, gives the sensation of an indurated nodule. Becoming more developed it assumes the shape of a disc, depressed in the centre and raised at its margin, whilst its colour is bluish grey, surrounded by a bright-red areola. Where the skin is stained with pigment, of course the changes in colour are not noticeable, though the pustule has the same umbilicated appearance, and the tint is a little brighter around its circumference than the other parts of the integument. This feature in the eruption of Horse-pox is characteristic of the variolous pustule in all creatures. In three or four days the pustule begins to become flattened, and the epidermis thickened and dry, forming a crust standing above the level of skin; and black, grey, or yellow in colour, according to the nature of the integument. For three or four days after the umbilicated disposition has disappeared from the pustule, the deeper surface of the crust remains very moist; and the mass is easily detached, leaving a small circular and finely granulated red or grey-coloured sore, depressed in the centre, and from which exudes an abundance of very limpid citron-coloured serum. When this exudation diminishes, it forms a yellow irregular crust, slightly adherent to the surface of the wound, and beneath which a certain amount of serum yet continues to be secreted. Towards the eighth or ninth day after the formation of the papule the exudation has greatly subsided. Should this crust not have been forcibly detached, cicatrization ensues without suppuration, the crust remains firmly attached to the epidermis until about the 15th to the 20th day, when it separates, leaving a little depression through which appears the rose-tinted corium.

In this natural desquamation the crusts are essentially formed by the epidermis, consequently there is always observed a tuft of hairs implanted in this mass; but if cicatrization of the pustule does not occur until after the epidermic layer covering it has become detached, as happens when the eruption is very confluent, and the crusts, instead of remaining adherent, are softened and destroyed, the purulent secretion succeeds that of a greasy nature, to which the malady has, at times, owed its common but erroneous designation. Each pustule in this case becomes pyogenic, and in a period varying with the region and the multiplicity of the eruption on a circumscribed surface, it is covered by a crust, formed partly by the fluid it secretes, and partly by the superficial layer of the granulations. It is beneath this closely adherent crust that the work of cicatrization gradually proceeds from the periphery towards the centre.

When the eruption takes place on a surface exposed to friction, or other external violence—as may be the case between the lips, where the pustules are often irritated and broken by contact with hard fibrous wood, or the bridle-bit—the lymphatics frequently become inflamed and multiple abscesses form along their course, with tumefaction in the glands to which they pass. In such cases the pustules are confluent, they soon coalesce from ulceration, thus constituting a large sore with an indurated base that so closely resembles Farcy as to have been, and to be even now, frequently mistaken for it. More especially is this likely to be the case when the lymphatic glands and vessels are inflamed consecutively to the ulceration of the pustules, and abscesses form along and in them.

Though these pustules of Horse-pox usually resemble each other in shape, no matter on what part of the body they may appear, yet they differ in size according to the regions they may occupy. Generally those on the trunk are the smallest and most disseminated, so that their presence is readily overlooked if a visual examination only is made, though nearly always their whereabouts is betrayed by the little erect tufts that mark their existence. Touch enables their location to be at once ascertained. On the fine skin covering the inferior extremity of the head, on the muzzle around and between the nostrils, on the lips and cheeks, the pustules are usually the size of large and small peas, which they still more closely resemble in shape and colour when the epidermis begins to dry on their surface. Their eruption in these situations is very frequent; sometimes they are discrete, at other times confluent. It is on the lower part of the limbs from the knees and hocks to the feet, especially the posterior limbs, and more particularly in the hollow of the pastern, that the so-called Grease pustules are most numerous and largest in dimensions; and the complex phenomena by which their presence is characterised readily explains why they were for so long a period, and are still, confounded with the non-specific disease of the skin of this part, vulgarly called "Grease." As the result of the movement, when the eruption is about to appear, the inferior part of the limb becomes tumefied and painful to the touch. If the skin happens to be destitute of pigment it is speckled with bright-red patches, each of which becomes raised, and develops a pustule that passes through the phases already indicated. If the hand is passed over the skin of the limb at this period a multitude of nodosities closely packed will be immediately perceived. When these nodosities have matured into pustules, and simultaneously reached their period of secretion, the skin as far as the eruption extends appears to be transformed into a kind of sieve, by the opening through which the limpid, slightly citron-coloured fluid, pours in abundance. At the same time the hairs stand bristling up from their inflamed base, and, becoming agglutinated, allow the fluid part of the serosity to drop from the ends of the tufts; they thus become the most concresible portion of the discharge, forming a vesico layer on the surface of the skin,

and concealing more or less the character of the eruption. This abundant discharge from the pustules on exposure to the air rapidly decomposes, and emits a very marked ammoniacal odour—another circumstance which leads to the disease being mistaken for Grease.

Such are the different forms the eruption assumes on the skin. Everywhere the pustule has the same characters, and passes through the same phases, but when it forms part of a close cluster, the abundance of the fluid which bathes it prevents its cicatrization in the manner described, for at an early period it loses its epidermic covering and exposed tissue becomes pyogenic.

The buccal eruption of Horse-pox is, in its simplest form, at first characterized by the presence on the lining membrane of the mouth of small vesicles about the size of a pea, some circular, others elongated, and whose rosy opaline tint contrasts markedly with the bright-red hue of the mucous membrane on which they are placed. These vesicles are smooth on their surface, and do not show any central depression; in colour and shape they are not unlike pearls; to the touch they feel lumpy; and any pressure on them causes the animal pain. They may be confluent, or discrete, and are observed on the inner aspect of both lips, the inferior service of the tongue and borders of its free portion, the inner face of the cheek, gums, commissures of the mouth, especially along the Whartonian ducts and their orifices. When these buccal vesicles are opened, either naturally or accidentally, there remain little round or lenticular sores, with sharply defined borders, finely granulated at the bottom, and deep-red in colour. Accompanying this eruption is a very copious salivation, and but a slight tumefaction of the submaxillary glands. The animal is a little dull, and eats with less avidity than usual, partly owing to the pain in mastication. It must be observed, however, that these symptoms are generally so slight as to attract little if any attention. It is very rare that the eruption remains confined to the mouth; in most cases it extends at the same time to the lips, end of nose, and around the nostrils, and this externally gives the disease a most precise character.

In other instances the eruption in this region coincides with the appearance of pustules of the same kind on the trunk, or concentrated on the lower part of the limbs. This coincident eruption is, of course, the expression of the same general morbid condition, but there are cases in which the eruption of the pustules in different regions at the same time is manifestly due to the successful inoculations the animal performs on himself. Thus a horse whose mouth is affected may easily transplant the virus by gnawing any part of the body which happens to itch; while another, which licks or bites a portion of the skin covered with mature pustules may have its lips and mouth affected in consequence.

It is extremely probable that this equine malady is pretty generally diffused in the different parts of the world inhabited by the horse; the Cow-pox, which is held to be derived from it, being known both in the Old and New Worlds. It has, however, only been recognised and described in Europe within a recent period, England claiming the distinction of being the first to describe it and to indicate its relation to Cow-pox, as well as its efficacy as a preventive from human Variola.

The eruptive fevers of mankind and animals possess a special interest for the pathologist and sanitarian from the fact that many of them are fatal, and all are transmissible. The experiments of Loy went far to prove the existence of Horse-pox in this country, for at the beginning of this century, after repeated failures to reproduce Horse-pox by inoculation—no doubt from the fact that the material used was from cases of ordinary Grease—he fortunately met with a case in a horse when the exudata from the heels was much more limpid, and which was evidently Horse-pox. The material was

taken from the subject on the 14th day, that is the 7th of the discharge from the heels. Four cows inoculated with the material showed the usual symptoms of Cow-pox, and a child also inoculated with it, on the 3rd day had a papule surrounded by slight inflammation; on the 4th day the papule was very elevated, and on the 5th day there appeared a purple-tinted vesicle, on the 6th and 7th days the vesicle had increased, and was darker. Accompanying these changes there was fever, head-ache, quickened respiration, frequent pulse, white tongue, etc., which symptoms decreased towards the 9th day. On the 16th after inoculation from the horse, the child was inoculated with Small-pox matter without result.

Loy recognised two kinds of Grease, one merely local and non-infective, the other local and constitutional (eruptive); the latter gave the disease to the grooms who handled the horses. Undoubtedly these latter cases were genuine Horse-pox. With the first there was no general disturbance, but with the second at the commencement the horses exhibited symptoms of fever, from which they were relieved as soon as the disease appeared at the heels, and there was an eruption on the skin. The fact that inoculation from "constitutional Grease" is a protection from Small-pox, and that the rather severe effects of direct transmission from the horse to the human species are modified by passing the virus through the cow, or through mankind, were fully recognised by this enlightened observer, as well as the other important fact that the matter is only certainly effective when perfectly limpid, which is at an early stage of the disease. By this observer it was remarked, that neither the original nor the communicable disease was infectious through the medium of the atmosphere.

The term "Grease" is very misleading, and was the cause of Horse-pox being overlooked, and indeed altogether ignored, for some considerable time. In 1805 Viborg, of the Copenhagen Veterinary School, inoculated a cow with matter from the heel of a horse affected with specific form of so-called Grease. On the 5th or 6th day, on the udder and teats were bright transparent vesicles, with the characteristic areola and umbilicus of Cow-pox, and the cow exhibited a high degree of fever, while the secretion of milk was nearly suspended. In 1830 Hertwig and eleven students of the Berlin Veterinary School became inoculated through handling horses affected with Horse-pox, as affecting the limbs particularly. This form as an epizooty was then prevailing largely in North Germany.

Delafond, in 1840, observed an outbreak among horses in France, undoubtedly Horse-pox. In 1843 Bouley saw another outbreak; neither, however, recognised it as such, and it was not until a regular epizooty of the disease appeared at Ricumes, near Toulouse, that serious attention was directed to it. Lafosse, of Toulouse, deeming at first the epizooty was only Grease, fortunately inoculated a cow in order to submit the Jennerian doctrine to an experimental test. The experiment was made eight days after the manifestation of the eruption in the mare, and was perfectly successful. Papules, then pustules were formed on the cow wherever the matter obtained from the mare had been inserted with the lancet; large, firm, and round pustules, with a central umbilicus which caused the borders to appear raised. They were the vaccine vesicles intact. Another cow was inoculated from this one, and had a very fine cow-pock, from which a child was vaccinated; also a horse, and these had a magnificent vaccinal eruption. A second child, inoculated with the matter from this horse, had, in its turn, a well-developed pock.

Comparative inoculations were then made on children and horses with the equine virus, and the ordinary humanized vaccine, and it was found that the former produced larger and firmer pustules than the latter, though the evolution was slower—a point worthy of note. Bouley, then Chemical

Professor at Alfort Veterinary School, not quite satisfied with what had been done in this direction by Lafosse and others, resolved to inoculate cows with all the eruptive maladies of the horse which his daily routine of professional duty brought before him, and singular to relate the very first case (1863) was a successful one, and produced a beautiful cow-pock.

Since 1864, when the exact nature of Cow-pox was for ever settled by the observations and experiments of Bouley and others, no doubt has existed in the minds of those who have carefully studied the history of the disease that Horse-pox and Cow-pox are as like each other as it is possible, so far as the results of inoculation are concerned. But the two diseases appear to be perfectly independent of each other in their origin; for Cow-pox appears where there is no Horse-pox, or possible contact with horses, and where the men who attend upon them do not milk cows. It has been frequently observed that Horse-pox prevails on a farm or in a locality, and no Cow-pox is seen there; while Cow-pox may affect a number of cows in a dairy, and the horses be entirely free from Horse-pox.

Human Small-pox inoculations on the horse are either negative, or nearly so; the positive results yielding only the most trifling evidence of infection, and nothing at all like Horse-pox being ever produced from the insertion of Small-pox virus into the skin of the horse; while retransmission to mankind only gives rise to Small-pox.

But Horse-pox inoculated on the cow produces what in every respect corresponds to Cow-pox, or on man to Vaccinia.

From the cow and man Horse-pox can be transformed indefinitely, and while its action is somewhat modified by numerous transmissions, its protective influence against Variola is undiminished. This has been demonstrated times without number, since the time of Jenner up to now.

Human Variola cannot be converted into Cow-pox, though for nearly a century it has been stated by the highest medical authorities that Cow-pox is simply Small-pox, modified by its passage through the cow.

I may now briefly allude to the diseases with which some confusion must exist in diagnosis, chief of which I take Erysipelas, Contagious Impetigo, Acne, Contagious Pustular Stomatitis, Urticaria, Glanders and Farcy, and lastly Grease (Stearorrhœa), as well worthy our consideration this evening. Erysipelas, which may justly be called a specific surgical fever, consisting in a peculiar inflammation of a part with attendant fever, in which the tendency of the inflammation is to lead to great serous infiltration of the part and rapid extension of the morbid process with as rapid destruction of tissues affected; accompanied in parts devoid of hair by lividity and redness of the skin, in excess of that usually present in a case of ordinary inflammation. The specific symptoms have by many authorities been attributable to the presence of streptococcus pyogenes, an organism found, however, in many diseases in which pus-formation is at all present. As a rule Erysipelas in our patients is of traumatic origin, rarely idiopathic. Variola Equina does not result from wounds, nor am I aware of its following upon other affections in which constitutional symptoms are pre-eminent, as the "exanthemata" proper. Erysipelas seems to occur when an animal is exhausted, or debilitated—not so Horse-pox. Neither do we see a progressive eruption as in Variola; the mouth eruptions are absent, so also are the most characteristic pathological features of Erysipelas—the peculiar gelatinous aspect on section of the textures affected.

In this disease lowered vitality of a part is a principal factor in development; it spreads by multiplication, effected by continuity of structure, but is transmissible, by experimental inoculation, to distant and dissimilar structures; although its effects were at one time supposed to be confined to the skin. In the horse it is usually found to attack the skin of the fetlocks,

whence it extends both downwards and upwards, and may be confounded with Grease, in both of which morbid conditions considerable thickening and tumefaction of the skin exist, as the result of serous exudation. These points are markedly different from Horse-pox.

Contagious Impetigo is a rare disease in this country, and one with few symptoms approaching Variola Equina; but the causes are almost always local irritation or imperfect hygiene; and the skin of the legs seems a favourable spot of attack. Thin-skinned horses as a rule are attacked. The nature of the scab is peculiar; it appears glued to the part, and when shed leaves a bare, even patch, which heals without desquamation. In typical cases the eruptions are usually discrete, superficially situated, and seldom penetrate the subcutaneous connective tissue, except as a complication only. The vesicles are pearly-white at first, and contain a serosity which may become purulent in the later stages, causing rupture of the walls and a glutinous discharge. In exceptional cases of vesication in small groups, which I observed in an outbreak among a number of 'bus horses at Portsmouth in 1887, each vesicle remained distinct throughout its course, although closely watched; which is quite different from the first appearance of Eczema. Impetigo is unattended by itching, it runs a rapid course, constitutional disturbance as a rule *nil*. It is easily inoculable. It may be doubted whether pus formation is more rarely related to this disease, or its complications. At any rate, its absence in many cases would point to the latter. Lastly, this disease has a shorter duration than Horse-pox. It runs its course in from two to three weeks, unattended by fever, and amenable to local treatment. The usual seats of the eruptions are the limbs and body. This disease was first described by Dr. Tilbury Fox under the name of "Contagious Impetigo," and R. W. Burke, of the Army Veterinary Department, introduced it to English-speaking veterinarians under this name, in his Annual Veterinary Report of 1883. I had an opportunity of witnessing this affection in 1887, and of corroborating in every detail Mr. Burke's statements. Schindelka brought it to the notice of German veterinary surgeons also under a similar designation.

Acne Contagiosa (of Dieckerhoff and Gravitz) is an eruption of numerous pustules, principally in parts covered by harness and their immediate neighbourhood, the disease being generally carried by the brush and curry comb from the original crop. In average cases, an exanthematous eruption occurs in two or three days after infection. A round or oval inflamed area is formed, the hair becomes rough and moist, the skin is tumefied, and in a few cases a somewhat sticky, serous exudate is thrown out. If the skin be thin suppuration may take place, in which case from one to twenty pustules are formed. After five to eight days these pustules dry up, and under the crust granulations are found which lead to cicatrization. The skin between the pustules remains smooth. Should the pustules be very close, sphacelus of skin may occur, and then the dead tissue is thrown off as a slough. As a rule the parts heal completely in from ten to twenty days; only rarely does the process invade the subcutis, and when this occurs lymph exudes, and runs its course in from two to six weeks, terminating in cicatrization. No constitutional disturbance is noticed. Itching is slight, and occurs only during the healing process. Isolation of the diseased, and washing of affected parts with liquor plumbi subacetatis and alum water is sufficient to promote a cure. An average case if properly treated is cured in about four weeks, but it may last from eight to twelve through fresh crops of exanthems growing from neglect of treatment. A bacillus has been found in discharges from the skin, and is being studied by Professors Dieckerhoff and Gravitz. Horses, calves, rabbits, and guinea-pigs are susceptible to the disease. House mice, white, and field mice are proof against it when it is applied to the skin.

Urticaria.—This affection can hardly be confounded with Horse-pox; yet it possesses an interest, for R. W. Burke records a case in which Horse-pox followed its appearance. This case is reported in the June issue of THE VETERINARY JOURNAL. It is evanescent in character—probably a neurosis of skin, which may remain for a few hours or for a week; if the latter a new crop usually appears. Essentially an effusion, infiltration of the superficial part of the papillary layer of the skin and subdermal tissues. Nerve-paresis, or disturbance of nerve-influence, or action on vaso-motor system, any local irritation, disordered digestion, draughts of cold water when heated. It appears as oval or whip-cord strokes, is rarely seen except on the trunk and neck, sometimes along head and neck; it may affect a number of animals at one time; is seen in cattle where the umbelliferæ are abundant or the herbage coarse, and also on heaths. It is characterised by an exudation from the skin, open condition of coat, rapid appearance of scattered elevated patches. As a rule there is no desquamation, and no sequelæ of importance have been noted, until this case of Horse-pox supervening calls our attention.

Contagious Pustular Stomatitis.—This is purely a local disease. The active agent in its propagation appears volatile; and apparently it is propagated by means of harness and utensils; warm weather increases materially its intensity, spread, and duration. The contagion is most readily transferable through the medium of wounds, and by simple contact; it is unattended by fever, or great disturbance of any kind. Next to Glanders, Stomatitis Pustulosa is most frequently mistaken for Horse-pox; the eruptions, however, are not so large as in the genuine Horse-pox, and the latter do not, as a rule, first appear in the mouth. The lesions of Stomatitis begin usually on the edges of the nostrils, but show none of the symptoms characterising Glanders; inoculation with the matter of pustular Stomatitis does not produce Glanders. The eruption is round, discrete, and covered by a peculiar brown crust, showing healthy granulations situated beneath: the edges are surrounded by healthy skin. The sores generally heal in about eight days. It may affect the mucous membrane of the septum-nasi. The course of this disease is a benign one.

Next we have Grease—Stearorrhœa,—which is a disease of gradual development, whereas Horse-pox is sudden in its attack. The local lesions are propagated, and if severe there is systemic disturbance, which rapidly abates when medicinal agents are given internally. Local applications should be carried out at the same time, with due attention to cleanliness of the parts, dryness, etc. The lesions of Grease are oftentimes erratic in character, and are then less amenable to treatment than those characteristic of a variolous eruption. Inoculation with any of the discharges from Grease does not produce Horse-pox. The apparent simularity between Grease, as affecting the lower portion of the limbs, to Horse-pox disappears when the surface of the skin is exposed by clipping away the hair, and freeing it from the viscid matter and crusts by soap and water. If the disease is Horse-pox there will be observed either circular cupiliform sores, after removal of the epidermic crust from the pustules—these epidermic crusts being still attached with the tuft of hair through them, though adhering but slightly—or, when the papular sores have become pyogenic, the presence of some of the exuberant granulations projecting above the level of the skin are very characteristic.

In Variola the fluid in the pustules is in some cases so abundant as to flow over the adjacent parts, generally in proportion as the discharge increases and the swelling and lameness observed at the commencement of the malady disappear. The character of this discharge has been already described, but it may once more be stated that its viscid consistency, fœtid, ammoniacal odour, the bristle-like erect hairs, and the engorgement of the limb, give the

disease when it is located in the extremities, a very striking resemblance to Grease. At times this discharge is absent, and there then is only hot and painful swelling of the hind limb, terminating in an abscess containing matter, which by inoculation produces Cow-pox.

With a malady, which in its destructive and propagatable properties always demands our serious attention, and when errors in diagnosis bring about ofttimes serious results, and death to the human subject; the diagnosis of these diseases is very important, as there can be little doubt but that, in one or other of its forms, Horse-pox has been mistaken for Glanders or Farcy.

Horse-pox, when it appears at the lower extremity of the limbs, may be compared with inflammation of the lymphatic vessels, and glands and abscesses may form along the course of these, or in the subjacent cellular tissue of the skin on which the confluent pustules are located. These give the disease a certain analogy to Farcy, for which it may be mistaken, otherwise between the pustule of Variola and the Farcy tumour or bud the difference is so marked that a mistake cannot be made. In Horse-pox, when the pustules have been confluent, there is always an ulcer remaining with a sharply-defined margin; this ulcer has a great tendency to cicatrization, and the pus which is thrown off from its surface is of a healthy character. This is not the case with a Farcy ulcer.

When the eruption of Horse-pox is confined to the Schneiderian mucous membrane, errors in diagnosis are yet more likely to occur.

The identity of the situation with that of Acute Glanders, and the similarity of some of the symptoms common to the two maladies, render mistakes easy, more especially as to the great danger of infection from a glandered horse may cause the veterinary surgeon to get through his examination as quickly as possible. Nothing so closely resembles Acute Glanders as a confluent eruption of Horse-pox in the nasal cavities accompanied by discharge, painful tumefaction of the submaxillary lymphatic glands, a flux of tears, dulness, general debility, etc., and the resemblance becomes closer if the eruption appears at the same time on the lips, and the pustules there enlarge and ulcerate from external injury, giving rise to inflamed lymphatic vessels. The chances of error are then so great that for a long time the benignant eruption of Horse-pox has been looked upon as one of the special features of the Glanders and Farcy condition. Dard, in 1840, had called attention to the mistake, and Bouley, soon after, had occasion to notice it. The last-named authority had many opportunities of satisfying himself as to the different symptoms of the two maladies, though for many years, not recognising the exact nature of Horse-pox, he designated it Herpes phlyctenænodes. The primary element of this eruption, he says in a clinical lecture, "is a transparent pimple developed on an inflamed base, and resembling in shape a phlyctæna; the pimple in its evolution becomes lactescent through the change that takes place in the serosity it contains, then it is altogether purulent, finally it bursts, and instead of leaving, as in Glanders, a rodent chancre, its presence is only marked by loss of epithelium on a circumscribed surface corresponding to the space it occupied. This constitutes a strongly-marked difference between the two diseases. When, indeed, we compare this approaching vesicular eruption and that of Glanders, we shall see how great are the differences between them. When the glanderous eruption is about to take place the nasal membrane is of an uniform deep saffron hue; in places there are red, circular or elliptical patches, about the size of a franc; at these the membrane swells and projects above the other portions of the membrane constituting the pustules. At first salient, rounded at their summits, of a reddish-violet colour—which contrasts strongly with the bright red areola encircling them—and hard to the touch, these pustules soon

become white at the top; they then exhibit in their centre a very characteristic leaden hue in the middle of the red circle surrounding them. At this period of maturity the pustule bursts and discharges a sero-purulent fluid, which is tenacious, like the white of an egg, and forms a semi-transparent exudation on its surface. No sooner is it opened than the pustule is replaced by a chancre exactly the same in dimensions—the borders of this chancre are of a deep red colour, swollen and prominent, at the bottom it is grey in hue and granular, with a semi-transparent serous matter covering it. This chancre rarely remains stationary in its dimensions; more frequently it extends with great rapidity, becomes deeper, and as it spreads transforms the pituitary surface into a large sore, the borders and centre of which offer the same aspect as the primary chancre. The pustular eruption of Glanders is sometimes discrete, though generally it is confluent, and when ulceration invades the agglomerated pustules it converts them all into one vast chancre, which in a brief space invades the whole extent of the membrane in depth as well as on surface, not unfrequently involving and destroying the cartilaginous septum of the nose. The chancre of Acute Glanders may sometimes cicatrize, but the mucous membrane is never regenerated at the spot it occurred, being replaced by a very dense white tissue, thicker than the membrane for which it is substituted, and it consequently stands above the surrounding level. The cicatrix is composed of fibres which radiate from the centre towards the circumference, in the stellate fashion. The presence of this indelible cicatrix betrays the loss of substance that has taken place in the membrane."

Such are the ulcerations of Acute Glanders, and it will be observed that the differences between them and Horse-pox are all the more marked as the eruption of each passes through all its phases; forasmuch as with time the symptoms of Acute Glanders increase in tendency—the nasal Horse-pox only requires a few days to run its course, disappear, and leave no trace of its existence. It is only at the initial period that there exists any particular resemblance between them.

Having alluded to the diseases which confront us in dealing with Equine Variola, and with which it behoves us to be familiar with in general details, it remains for me ere I conclude my essay to give briefly the symptoms which were met with in the black mare to which I have previously alluded.

In all I recognise five cases since 1883, which I diagnosed as genuine Horse-pox, and I feel sure that diagnosis was correct, for by inoculation the disease was reproduced in an unmistakeable form.

Black mare, seven years old, employed in 1887 by Messrs. Peters and Sons, brewers, Portsmouth, had been in the employ of this firm for six months, and up to this attack had not been ill nor failed to do all the work required of her. My attention was drawn to her after she had appeared dull, with slight cough for three or four days; the foreman decided upon resting her, and drew my attention to her in consequence. Glanders being very prevalent in Portsmouth among the 'bus horses of Messrs. Andrew and Son, of Cardiff, extra precautions were exercised in dealing with any cases, where large numbers of horses were concerned especially.

Examination revealed dulness, loss of appetite, increased thirst, followed on the 3rd, 4th, and 5th days by increased fever in progressive degree, and upheaval of hair in several parts of the trunk, followed on the 6th day by a slight discharge from right eye of a glairy mucous character, slight reddening of conjunctivæ, and on the 7th day by an appearance of a number of discrete papules of no very great dimensions over the trunk. Temperature on this day 104°, on the 8th 104·5, 9th, 104·6. This state of affairs continued until the 10th day, when the papules were distinctly marked, especially as scattered

here and there were little erect tufts of hair denoting their whereabouts. A few had already become vesicular in nature, the lymph contents being easily perceived. These vesicles were depressed or umbilicated towards the centre, and on the 11th day had assumed a pustular character, the envelopes of the vesicles being distended to their fullest extent. On the 12th day, an eruption of pearly white vesicles appeared in the mouth, a few on the free borders of the tongue, and around the nostrils. The vesicles were clearly defined from the reddened mucous membrane ot the mouth, painful to the touch, and accompanied by marked salivation, the saliva hanging in shreds from the mouth; and food was partaken of with difficulty. Fever, great before the advent of the dermic eruption, especially in the vesicular, becoming more marked when the vesicles had become pustules and confluent; those which appeared along the course of the flexor-tendons of fore-legs and heels of both hind declining soon afterwards, that is as desiccation advanced. A few vesicles appeared on the off hind heels, anterior surface of off hock, and inside knees, accompanied by a highly fœtid odour, very characteristic of this disease.

Desquamation commenced on the 13th day, and on the 14th day appeared general. Cardiac disturbance was great on this day, evinced by œdema of chest, jugular pulse, irregularity of cardiac or submaxillary pulse, by pain on pressure of chest walls, fixing of head in corner of loose box, with no attempt at lying down. Oatmeal gruel, bran mashes or linseed boiled, were just nibbled at, or partaken of but little. There was œdema of near fore, and at the fetlocks of all four limbs, which were painful to the touch; the pustules along the limbs from hocks and knees downwards were large, the limb resembling a sieve in appearance, from which serum exuded in quantities. By the 20th day desiccation had been completed. There was loss of hair to a slight extent, and weakness, but she soon regained sufficient strength under a course of tonic treatment to work for a long period, and without developing any secondary attack, or sequelæ.

The treatment pursued was palliative. It was a case where full liberty of action was ours, the owners being afraid of any spread, even after apparent recovery had taken place; we could therefore watch the case more fully than ordinary. Cleanliness was rigidly observed. Where danger existed from flies, we kept the pustular discharges well protected with antiseptic gauze dressings; the mouth eruptions were washed with pot. chlor. solutions, alternated with pot. bicarb. and glycerine. Stable disinfected with carbolic acid, and drains sluiced with pot. permang. In the water or gruel was placed salicylic acid and pot. bicarb. powders alternately, especially when the febrile symptoms were marked. Enforced use of certain stable implements for the case in hand, and destruction of them afterwards together with the moss litter used for bedding. In seven weeks from her first entry into the infirmary of my employer, Mr. J. T. Gregory, M.R.C.VS., she was at work again. I need not enter more minutely into particulars, as the symptoms in general closely approached those given at the commencement of this essay.

Professor Williams records a case as far back as 1872, of what he considered a genuine case of Horse-pox, and strange to say an outbreak of Small-pox was then raging in Edinburgh.

The vitality of the virus has not been satisfactorily determined, but though lacking the extreme virulency of some other contagious diseases, it resists severe physical and chemical tests. It would appear, however, that the epidermic crusts preserve their vital properties for a long time, for if macerated in glycerine for twenty-four hours, a fluid may be obtained sufficiently active to produce, when inoculated, well-developed pustules.

In conclusion, Mr. President and Gentlemen, I beg to thank you for your

kindly and patient consideration of my essay ; I must apologise for its length, and for the imperfections which exist. I feel sure that the many interesting features of the disease, its limited extent in Great Britain according to many veterinarians, induced me to collect material bordering on this interesting affection. My opinion is, that it exists more extensively in Great Britain than is usually allowed, and from its mildness escapes detection. The danger, however, of its being confounded with Glanders, Farcy, or other dermic affections has induced a comparative *resumé* of facts and observations relative to diseases which require strict attention and consideration. I trust by your kindly discussion, you may in one way or another place this affection more definitely among the fevers of a special nature as existing among horses in this country and elsewhere.

*Discussion.*

Mr. HUNTING said he had listened with very much pleasure to the somewhat full and elaborate paper. The disease, so far as his experience went, was rare—perhaps he ought to put it that his experience of this disease was very slight. He remembered a cob being sent up to him from a place where cows where kept. It had been in London only a few days when sore-throat developed. In a day or two pustules appeared on the outside of his lips, and broken vesicles inside the mouth. The sore-throat increased, and there was a discharge from the nose. There was also a swelling of the glands, and he thought it was a case of Glanders. It became well in about three weeks. He regretted that he did not take the proper scientific interest in the case that he should have done. Another cob that had been in contact with this one showed the same symptoms. This second cob mended very slowly. There was a good deal of disturbance, and a good deal of sore-throat again, but there was a pronounced vesicular eruption on the inside of the lips. Mr. Hunting referred to a third case, and said in all three there were symptoms similar to those described by Mr. Mahon as indicating Horse-pox. Referring to Stomatitis, he said he failed to recognise any difference between pustular Stomatitis and Horse-pox. If there was a marked difference he should be glad to hear it. He wanted to know a good deal more about these microscopical appearances before he was inclined to think that they were of much use to the clinical study of disease.

Mr. DOLLAR said he knew nothing about the disease. He had seen a few cases of allied diseases, but he did not think that much was to be got from the mere study of allied diseases. One of the prominent symptoms in Horse-pox, so far as clinical study was concerned, seemed to be the appearance of the vesicle in the first instance, and the fact that it went through a certain course of appearances differing in their order and consequences from those of allied diseases was valuable as differentiating between that and other diseases. Mr. Mahon had gone into the subject so fully that probably it was impossible at the present time to add anything to the general knowledge—certainly it was so far as he was concerned.

Professor PENBERTHY said he had no intention of occupying their time with any lengthened remarks on the paper. He thought it was incumbent on a society like this to decide certain points. Representing practitioners dealing with the largest number of horses in any part of the world in a given area, they ought to decide whether they did commonly meet with Variola Equina. In order to arrive at a conclusion on that point it was absolutely essential that practitioners should understand what the disease was in giving points of differentiation between this and other diseases. Mr. Mahon had done good work, but still there was some room for enlightened differentiation, particularly that one described as Stomatitis Pustulosa Contagiosa. Of course his friend, Mr. Dollar, was absolutely correct in the stand he took

that they recognised as Variola, whether in man or the lower animals, a disease which ran through more or less definitely certain phases, these occupying certain definite periods. He should like the opinion of the members as to the general prevalence of Equine Variola in their different practices. So far as he was concerned, he had only met with two cases, and they were brought from America. They were said to be the first cases, but he had grave doubts about that, and he differed from the majority of his fellows who saw them. It was a matter worthy of their attention, and they should state there their experience of the disease in the metropolis. It would save a lot of talking, perhaps, if the Chairman put the question to individual members.

Mr. ROGERSON said he had had a little experience with regard to this pustular eruption. He had on several occasions met with it on the nostrils and lips, and other parts of the body. He remembered a young brown mare which had an outbreak on the near side of her face, the near side of her body, and her off hind leg, the latter being also much swollen and very painful. It did not seem to affect her very much constitutionally. He, thinking it was a suspicious case, isolated her. She gradually recovered after he had given her a few tonics, and applied a stringent lotion to the places.

The CHAIRMAN then acted upon Professor Penberthy's suggestion, when but a very small minority of the meeting indicated that they had met with cases of Equine Variola.

The CHAIRMAN said he had only seen two cases in his professional life. One was a Russian pony, and these pustules covered the head in large patches running one into the other. He applied carbolic acid water, but in his opinion they did not want much treatment beyond giving them something just to reduce the fever.

Mr. WILLIS said this was a common disorder in Russian ponies.

Mr. DUCK referred to cases that had come under his notice, where the constitutional symptoms were slight and hardly noticeable, and where the horses got well without any treatment at all. But after reading Dr. Fleming's paper on Variola it was a question whether or not these might not be called Horse-pox. He had three cases of Stomatitis in young horses, and he was inclined to think that it could not be Horse-pox.

Mr. MULVEY said some few years ago he came across a few cases in the North of England. His attention was brought to them by the peculiarity of the vesicles on the mouth, and he made a very careful examination there, and others he had noticed since were imported cases.

Professor PENBERTHY said he had heard nothing to convince him that they had not been dealing with Stomatitis in the cases that the several members had referred to.

Mr. HUNTING said he should like to ask the last speaker whether the so-called cases of Stomatitis were not Horse-pox, as they could not recognise one from the other.

Professor PENBERTHY agreed that they wanted to be certain what was Stomatitis and what was Horse-pox. They did not know.

The CHAIRMAN asked Mr. Mahon whether he could give the distinctive signs between the two.

Mr. MAHON said he wanted to know whether Horse-pox existed or not. He had seen Stomatitis and recognised it, and he had also seen and recognised Horse-pox ; and what he had observed agreed with statements made by men who had had more experience than English veterinarians on the subject. Further, he had recognised this distinction—that in Stomatitis the eruption was generally discrete. The eruptions were smaller and surrounded by healthy patches of skin, but in cases of Horse-pox he had seen no healthy

skin around them. There was no sore-throat in Stomatitis. He took notes of his cases and kept them several years, and after reading of the experiments made in different countries on this subject, he thought it would be wise to bring this subject before a meeting of this Society, to ascertain whether the members had seen this disease or not. He would like to ask the President if he would allow the discussion to be continued at their next meeting. If the cases he had described were not Horse-pox, what were they?

Mr. HUNTING proposed that the discussion be resumed at their next meeting.

Professor PENBERTHY seconded the proposition, which was carried unanimously.

A vote of thanks to the Chairman, on the proposition of Professor PENBERTHY, closed the proceedings.

## NATIONAL VETERINARY ASSOCIATION.

THE usual annual meeting of this Association took place at Doncaster on July 21st and 22nd. The attendance was fairly good, but from the position of the town in the centre of England, it was expected that many more would have been present. The town itself gave the meeting a hearty reception, placing two of its fine public buildings at the service of the Association, while its Mayor and Town Council honoured it by appearing at the banquet on the 21st. We shall hope to give a full report of the proceedings in the September Journal.

## ROYAL AGRICULTURAL SOCIETY.

AT the Council meeting held on June 23rd, Sir JOHN THOROLD reported that the Secretary had laid upon the table a statement of the action taken by him to carry out the resolution of the Council, passed on the 3rd instant, with reference to the exclusion of cattle from scheduled districts. This action, and the issue of the Secretary's circular of the 11th instant, had been approved. An acknowledgment by the Board of Agriculture of the resolution of the Council relating to Swine Fever had been laid upon the table.

The following report had been presented by Professor Brown:—

*Pleuro-pneumonia.*—Since the last meeting of the Veterinary Committee the Pleuro-pneumonia returns for the three weeks ended June 13th have been published in the *London Gazette*. During this period 57 cattle affected with the disease were slaughtered, by order of the Board of Agriculture, in the counties of Lancaster, London, Middlesex, Northumberland, and York (W.R.), in England; Aberdeen, Forfar, and Midlothian, in Scotland. In addition to the above, 735 healthy cattle, which had been in contact with the diseased animals or otherwise exposed to the risk of infection, were slaughtered by order of the Board, as were also eight cattle suspected of being affected, but which were found on *post-mortem* examination to be free from Pleuro-pneumonia, although suffering from other forms of lung disease. Three outbreaks, involving nearly 400 cattle, were reported within a few days of each other. The first of these was on the Knavesmire, at York; the second in the county of Middlesex; and the third in London.

*Swine Fever.*—This disease still continues widely spread, and more or less prevalent in nearly every county in England. The fresh outbreaks have recently been about 180 per week, while the number of swine attacked weekly has been rather over 1,000, about half of which have been slaughtered; the greater part of the remainder died; a few recovered; but week after week

some 600 or more diseased pigs have been left alive, actively reproducing the virus of the disease to infect others.

The Earl of FEVERSHAM said he wished to refer to the large number of cattle which from time to time were reported from the Veterinary Committee as having been slaughtered in consequence of outbreaks of Pleuro-pneumonia. He thought it would be very desirable if they could have—and no doubt it was given in some form, probably by the Government—statistics from time to time as to the number of healthy cattle, as well as cattle affected with the disease, that had been slaughtered in the country. He knew that compensation was given by the Government, but at the same time it was a serious loss to the country. It was desirable that they should not only have monthly reports, but quarterly or half-yearly returns.

Mr. DENT stated that 8,000 animals had been slaughtered by order of the Board of Agriculture in six months; £150,000 had been paid in compensation, of which only £60,000 had been secured as salvage. He was glad to find that the views he had held for many years were beginning to receive some support, and charmed to think that the President for next year was so seriously alarmed. The Board of Agriculture appeared determined to "stamp out" the disease of Pleuro-pneumonia by killing all the cattle in the country. On the Knavesmire 263 animals reported to be affected with the disease were slaughtered, yet only one was said to be affected with Pleuro-pneumonia. In the neighbourhood of Ripon seventy-nine animals were slaughtered, of which only one was reported to be affected. It was really a very serious matter. Most of the animals killed were heifers or cows in calf. One friend of his had sixteen cows under experiment for cross-breeding, every one of which was slaughtered in calf. Fourteen others, four-year-old milch cows, nearly due to calve, had also been ordered to be slaughtered. What encouragement was there to farmers to breed stock if they were to run the risk of having all their breeding animals—cows and heifers—swept off in this wholesale fashion? He (Mr. Dent) had been in a minority of one for a long time; but he was very delighted to think that he would have a recruit in the person of the President. Before long there would be a tremendous outcry on the part of breeders and farmers in England at the sacrifice that was being made. They must not have the idea that they were going to stamp out the disease by slaughtering. Comparatively no impression was being made upon the centres of the disease, notwithstanding the rate at which cattle were being slaughtered at the present time.

Lord FEVERSHAM explained that he did not wish Mr. Dent to think that he was opposed to the system of slaughter. He should like some statistical account showing the extent of the disease—if the monthly reports could be condensed into one return for the six months.

Sir JOHN THOROLD, in answer to Lord Feversham, read the return which had been presented to the Veterinary Committee by Professor Brown on the 3rd June instant, showing the number of animals killed between the 1st September, 1890, when the Pleuro-pneumonia Act came into operation, and the 23rd of May last, from which it appeared that the number of diseased cattle slaughtered had been reduced, but the number of healthy cattle in contact slaughtered had been 8,012, as against 4,083.

Sir JACOB WILSON said he did not think his friend Mr. Dent ought to claim any credit for the part he had taken in the matter, or feel any great pleasure at the justification of the support he had given to the non-slaughter principle by what had taken place lately. But, on the other hand, he ventured to think that the Board of Agriculture might feel justified in what they had done, because they were quite within the estimate they laid before the House of Commons last year, when they anticipated the possibility of everything

that had taken place. It was impossible to stamp out Pleuro-pneumonia in any specified period in the same way as Foot-and-mouth Disease. If anybody would without prejudice read the report of the Departmental Committee upon that point, and the evidence given by those who had had the largest experience in this and other countries, they would come to the conclusion that no *guarantee* could be given of the disease being stopped within the period of the life of any animal alive whilst Pleuro-pneumonia was prevalent in this country. Even at the time of the passing of the Act, they knew that it must take at least two or three years. The Board were justified in their action by the evidence from Holland and elsewhere abroad. They knew what happened there. As soon as animals were turned out to grass they had no means of localising and isolating them as they had in winter, and so the disease was sure to spread. But if they waited for another period during the winter, when they could once more get them into their stalls, there would be a much better chance of dealing with the disease. It was not surprising that the disease should break out in a large enclosure like the Knavesmire. Few people cared about the matter until it affected themselves. He ventured to say that if they were to canvass the breeders in the showyard in contradistinction to the feeders of Irish cattle, and those who had unfortunately been at the Dublin Show, they would find that they were supporters of the policy adopted by the Board. Considering what had taken place in other countries, and after the experience they had gained, it would be deplorable if they failed to give the Board of Agriculture the support it deserved in the exertions it was making to get rid of the disease.

The report of the Veterinary Committee was then adopted.

---

## Parliamentary Intelligence.

*House of Commons, June 26th.*

### VETERINARY OFFICERS OF THE BOARD OF AGRICULTURE.

MR. LAWSON asked the President of the Board of Agriculture whether he had sanctioned the employment and payment of the three veterinary officers attached to his department in London by the Royal Agricultural Society of England and the directors of the Yorkshire Show to attend the shows of those societies this year; whether the principal Veterinary Surgeon to the Board, having an annual salary of £1,000, had during the last three years held the post of principal to the largest veterinary college in Great Britain; whether his predecessor resided at that institution; and why he was not required to give his whole time to the public service like the Principal Veterinary Surgeon to the Army.

Mr. CHAPLIN, in reply, said:—In reply to the first paragraph, the facts are as stated in the question. It has for several years been the practice for one or other of the veterinary officers of the Board to attend certain agricultural shows. No loss to the public service is involved, as these officers deduct the time they spend at the shows from the annual holidays to which they are entitled, and considerable advantage arises from their intercourse with leading agriculturists, and from the information they obtain as to the circumstances of the various districts of the country. With regard to the second portion of the question, it is the fact that Professor Brown, the head of the Veterinary Department, has for three years been principal of the Royal Veterinary College, and his predecessor did reside at that institution. In reply to the last paragraph, the reason why Professor Brown has not been

required to give up that appointment is that I found the arrangement in existence when I succeeded to the charge of the Agricultural Department, and I have seen no reason up to the present to disturb it.

## Army Veterinary Department.

*Gazette*, July 21st.

2nd Life Guards.—Veterinary Surgeon (First Class) Thomas Flintoff to be Veterinary Surgeon, vice A. A. Jones, retired.

THE CHITTAGONG EXPEDITION.—It is satisfactory to learn that Mr. J. A. Nunn, A.V.D., has had an acknowledgment from the Government of India for the valuable veterinary report he forwarded on the Chittagong Column, which he accompanied.

## Obituary.

The death is announced of Mr. C. W. Blake, M.R.C.V.S., who graduated in 1861, and for three years practised in the West of England, when he came to London and was an assistant for a similar period. He—having strong racing or sporting proclivities—was appointed editor of the *Sporting Life*, in 1874, and his articles in that periodical were numerous, being written under the pseudonym of Augur. They have no professional interest.

The following deaths have also been announced :—

W. F. Dorber, M.R.C.V.S., Manchester, who graduated in 1870;
J. G. Paton, M.R.C.V.S., Manchester, a graduate of 1865.

We are asked to state that in the obituary list in the Journal for July, the name of J. Varney, M.R.C.V.S., was inserted through mistake. The J. Varney who had died was a registered practitioner.

## Notes and News.

AN ANNOUNCEMENT.—Our readers, before leaving for their holidays should entrust their canine pets as boarders to Spratt's Patent Dog Sanatorium. The Sanatorium is on a healthy site near Mitcham. The kennels are large and spacious. The dogs are well groomed and exercised for several hours daily, and above all are not caged or chained. Mr. Sewell, the canine specialist and veterinary surgeon, supervises all. Write Spratt's Patent, Limited, Bermondsey, London, for all particulars.

RECENT RABBIT DEVELOPMENT.—An article in the *Hobart Mercury* (Tasmania), of May 4th, gives some very interesting and curious facts concerning the development of a new sort of nail in the rabbits of Australia in consequence of the animal's endeavour to climb over the wire netting used to impede their progress in travelling. The farmers have discovered that the rabbits can burrow under the netting unless it is buried some six or eight inches under the soil. Moreover, they can climb, or evidently intend to do so, after a little training, and to this end they are developing a nail

which will enable them to hold on while progress is made upwards. This nail development has been noticed before in Queensland when the bark just out of reach was desirable of attainment, but to effect hand-over-hand nautical climbing shows the rabbit in the act of elevating himself in the scale.

TUBERCULOSIS IN GERMANY.—There were slaughtered at the public slaughter-house of Kiel, during the month of May, 63 oxen, 119 heavy bulls, 258 cows, 60 fat heifers, 70 light bulls under two years, 19 strong under two years, 743 fat calves, 1,370 pigs, 328 sheep, 65 lambs, 3 goats, 400 calves, and 41 horses, or a total of 3,539 animals. Of these, one bull, seven cows, one heifer and five pigs were affected with Tuberculosis.

BONE DISEASE AMONG CATTLE IN AUSTRALIA.—We learn from Perth, Western Australia, that the commission which was appointed some time ago to enquire into the cattle disease known as "Rickets," reports that the disease is neither climatic, hereditary, nor contagious; and that the beef of slaughtered animals is perfectly healthy as an article of human food. They trace the disease to the eating of some fodder plant, and recommend that the matter be placed in the hands of a veterinary surgeon and botanist.

ANTIDOTE FOR SNAKE-BITE.—A curious instance of one poison killing another is reported from Yackandandah, Victoria, where Dr. Mueller has recently administered strychnine in cases of snake-bite. A solution of nitrate of strychnine in 240 parts of water, mixed with a little glycerine, is prepared, and twenty minims injected hypodermically at intervals of ten to twenty minutes, according to the virulence of the attack. In some cases a grain of strychnine has been given thus within a few hours. The two poisons are antagonistic, and the characteristic effects of the strychnine only show themselves after the venom has been neutralised. The first independent action of the drug is evinced by slight muscular spasms, and the injections must then be discontinued, unless after a time the snake poison reasserts itself. So long as the latter is active the strychnine can be applied in quantities which would be fatal in the absence of the virus. Out of one hundred patients treated this way, some of whom were at the point of death, there was only one failure, and that arose from the stoppage of the injections after one and a quarter grains of strychnine were administered. Any part of the body will serve for the injection, but Dr. Mueller chooses a part near the snake-bite.

RABIES IN AUSTRIA.—It is stated that, in pursuance of the desire of the Austrian Sanitary Council, the Minister of the Interior has caused inquiry to be made with regard to the origin and prevalence of Hydrophobia in the various provinces of the empire. During the last decade, the number of dogs attacked with the disease which came under the observation of the local authorities, was from 700 to 800 annually. The average number of persons annually attacked by dogs thus infected, was from 250 to 340, showing a total of 3,021 cases in the past ten years. The mortality of persons during this period is officially registered at 822. The disease is common to all parts of the country, with the exception of some Alpine districts, where the cases reported are few and far between.

NEW CURE FOR DISTEMPER IN DOGS.—In *Vanity Fair* of July 4th is the following: It may interest dog-owners to learn that a new cure for Distemper has been produced and patented. Amongst the Guachos of South America it has been in use for a very considerable time. From them the

prescription was obtained some forty years ago by a travelling Englishman, and used with uniform success amongst his own dogs. The proprietor, relying on the success with which "Pacita"—for so the medicine is named—has already achieved in more than one kennel, anticipates with equal pleasure the thanks of dog-owners and some pecuniary profit.

GLANDERS.—The Provincial Veterinary Department of Dantzig announces that experiments have been made under its direction with the Glanders bacillus discovered by Professor Preusse, and that they have proved it a great success as a diagnostic medium; it is quite harmless when sound horses are inoculated with it.

THE END OF THE TSETSE FLY.—The latest news from South Africa (says the *Daily Graphic*) is that a Natal man is so confident of having discovered a remedy against the tsetse fly that he has accepted a contract to transport the Portuguese military stores through the infected district on the backs of bullocks. If he has, that Briton is worthy of a monument as big as Table Mountain; for he has removed the only great obstacle to the settlement and civilization of vast regions, where the one pest is not fever, or Kaffirs, or heat, but the bite of an insect not larger than the house-fly, and not unlike it. Harmless to man, large game, goats, and apparently all animals while suckling, it is death to horses, oxen, dogs, and in most cases to donkeys. A few days suffice to end the life of the bitten beast. An examination of the body exhibits the extraordinary changes which the speck of venom has wrought. Among other transformations, the blood is thin, small in quantity, and so colourless that it will scarcely stain paper. No cure, no preventative of much value has yet been found. Lion's fat, and milk and manure smeared over the threatened victims modify the attacks. But inoculation has no effect.

A NEW ANTISEPTIC.—A new antiseptic, said to have certain advantages over those hitherto in use, has been brought before the French Academy of Medicine, by Professor Berlioz, of Grenoble; extreme solubility, harmlessness, efficacy, and rapidity of action are claimed for it. It is called *microcidine*, and is a compound of napthol and soda, is neither poisonous nor irritant, is twenty times as active as boric acid, and much more soluble than thymol, carbolic acid, etc. Microcidine has the form of a greyish-white powder. In a solution of three grammes per litre it is very slightly coloured, but it does not stain either the hands or bandages.

ASSOCIATIONS OF WILD HORSES.—Life in societies is again the rule with the large family of horses, which includes the wild horses and donkeys of Asia, the zebras, the mustangs, the *cimarrones* of the Pampas, and the half-wild horses of Mongolia and Siberia. A recent writer states that they all live in numerous associations made up of many studs, each of which consists of a number of mares under the leadership of a male. These numberless inhabitants of the Old and the New World, badly organised on the whole for resisting both their numerous enemies and the adverse conditions of climate, would soon have disappeared from the surface of the earth were it not for their sociable spirit. When a beast of prey approaches them several studs unite at once; they repulse the beast, and sometimes chase it, and neither the wolf nor the bear, not even the lion, can capture a horse or even a zebra as long as they are not detached from the herd. When a drought is burning the grass in the prairies, they gather in herds of sometimes 10,000 individuals strong and migrate. And when a snow-storm rages in the steppes, each stud keeps close together and repairs to a protected ravine. But if confidence

disappears, or the group has been seized by panic and disperses, the horses perish, and the survivors are found after the storm half-dying from fatigue. Union is their chief arm in the struggle for life, and man is their chief enemy. Before his increasing numbers the ancestors of our domestic horse (the *Equus przewalskii*, so named by Polyakoff) have preferred to retire to the wildest and least accessible plateaus on the outskirts of Thibet, where they continue to live, surrounded by carnivores, under a climate as bad as that of the arctic regions, but in a region inaccessible to man.

---

## Correspondence.

### RETAINED PLACENTA, FOLLOWED BY PROLAPSED UTERUS AND VAGINA, IN A COW.—CHLOROFORM.—RECOVERY.

SIR,—On the morning of the 13th of June my cow gave birth to her second calf; the labour was very easy, only lasting a few minutes. As the placenta did not follow the next day, my man was advised by a neighbouring dairyman to tie half a brick to the protruded membranes, which was attended with no result until the morning of the 16th, when my man informed me that a great deal had now come away, and wished me to see it. I found the animal lying down in the natural position, with an enormous mass of protrusion, which, on close examination, I found to be the inverted vagina and uterus. Shreds of placenta were still adhering (which I afterwards pulled off). I sent for a veterinary surgeon, who was unable to come, thus leaving me no other alternative than to set to work myself. I sought the assistance of a farm bailiff, and, with the kind help of a friend staying in my house, began work. We used an old hat to serve the purpose of an impromptu inhaler, pouring in about two teaspoonfuls of chloroform at a time, inserting the nose of the animal into it, which she seemed to enjoy. I then washed the protrusion, which nearly reached to her hocks, with a solution of permanganate of potash (3 grains to an ounce of warm water), and gently returned the mass bit by bit, until the whole of it was out of sight. Fearing the constant straining might lead to a repetition of our troubles, I inserted an empty pint champagne bottle into the vagina, keeping it there by tying a double T bandage round the neck, fixing the four free ends to another bandage tied round her chest. About two pints of the warmed permanganate solution was injected into the vagina, and repeated night and morning for six days. By means of a long flexible tube and a funnel, half an ounce of laudanum was poured into a bran mash, and taken with relish. On the 18th my impromptu pessary was removed, and now, I am happy to say, my animal seems as hearty and well as she ever was. I have entered a little into detail, because I find great barbarity is used in these cases, the custom being to sling the animals up with ropes and pulleys by the hind quarters, which knocks them about a great deal, so much so that few recover. My object in writing is to show that a little common sense, two ounces of chloroform, and a pennyworth of permanganate of potash (of course, using the bottle pessary afterwards, instead of stitching the parts up) will avert both suffering and loss.—I enclose my card, and remain,

*July 14th*, 1891. A SURGEON AND JUSTICE OF THE PEACE.

## THE CENTENARY OF THE ROYAL VETERINARY COLLEGE.

SIR,—Early last year I called attention in the veterinary journals to the approaching centenary of the Royal Veterinary College, and urged that it should be fitly acknowledged. In a report of the annual meeting of the supporters of the institution, which appeared in last week's *Live Stock Journal*, the following paragraph occurs:—

"In view of the present year being the centenary of the College, it is intended to celebrate the event by entertaining the Prince of Wales, the Duke of Cambridge, and other distinguished guests at a luncheon, to which the students will be invited."

Surely it is not intended to exclude members of the profession from participating in the celebration, and to merely make a school treat of it. If feeding is necessary to commemorate such an event, have a banquet by all means, and let it be professionally public, accompanied by a scientific soirée. I, however, venture to think the establishment of a higher degree, or a few more scholarships would be of far greater benefit to the profession and more appropriate to the occasion than the usual "blow-out" which appears indispensable to English commemorations.

In view of this year being the centenary of our College, why not invite the profession generally to subscribe to a fund for the establishment of a "foundation scholarship," or free collegiate course, to be obtained by competitive examination? With something like 3,000 effective members in the profession, this could, and I think would, be gladly responded to without taxing anyone's pecuniary resources.

WOODROFFE HILL, F.R.C.V.S.

St. Leonard's-on-Sea, 22*nd July*, 1891.

---

## QUACKERY AND QUACK-SILVER.

DEAR SIR,—I know of two men who "assert very strongly, and deny most indignantly," and who also profess to be able to cure nearly all the diseases that unfortunate horses and cattle are liable to. They are in the habit of administering *large quantities of crude quicksilver*. Three ounces—perhaps more—a few days ago were given by one of these individuals to a dog. Is it necessary to add that the patient died? "CYNIC."

---

## CRUELTY TO HORSE-OWNERS.

SIR,—Last autumn, an old horse purchased by me as part of the plant and stock-in-trade of a country business, was stopped by an inspector of the Royal Society for the Prevention of Cruelty to Animals. It turned out that he had for a long time known the horse to be unfit for work; and yet, though my works were not ten minutes' walk from the police-station, and he well knew where to find me, he preferred to allow the horse go on working and thus to make "a case," rather than let me know how matters stood with the animal and thus stop any unnecessary cruelty in using it. I wrote to the R.S.P.C.A. to tell them that I knew nothing whatever of horses, but had given explicit orders to my carters not to over-drive my animals, and not to

work them if unfit. I also had the horse in question killed, and dismissed a driver who, I found, had ill-treated it. It would appear that my writing direct to the Society gave offence to the Inspector, and from the Secretary of the Society himself it merely drew forth a reply distinguished by sarcasm and want of courtesy.

In due course I was summoned and fined 10s. Not having any experience in police-court proceedings, I left my solicitor to pay the fine; he, it seems, thought I had paid it myself, and although we are both well known, my solicitor having recently been under-sheriff for the county, a warrant against my person was issued without any notice whatever—a step which my solicitor informs me was illegal.

After this experience I gave my carters strict orders to communicate with the veterinary surgeon should there at any time appear to be the least thing the matter with my horses. Meantime, on the advice of a man well known in the neighbourhood as thoroughly trustworthy and of great experience in horses, I purchased another horse to tide over the remaining few weeks of the season. As soon as it was put to work, the inspector told the driver he should stop it. On the driver asking what was amiss with the animal, the inspector sarcastically replied that "he would be right enough, and we could work him, if we put three new legs under him." I called in the local veterinary surgeon, and in the meantime happening to meet the Inspector, I inquired what was wrong with the horse. He replied that it wanted new legs. On my saying that I had called in a veterinary surgeon and would act on his advice, the inspector replied that "I was not to work the horse whatever the surgeon said; that I *should* not work him;" and finally, that "If I did, both myself and the surgeon would be liable." I then said that I could do no more than place myself in the hands of a veterinary surgeon. The local veterinary surgeon examined the horse and declared him fit for work, but advised that he should not be put to quick work. Wishing to be quite sure of my ground, and being as desirous as the R.S.P.C.A. could wish not to be cruel to animals, I next called in Mr. W., a veterinary surgeon from the county town, a gentleman of long experience and inspector for the county under the Contagious Diseases Act. This authority confirmed the opinion of the local surgeon, and I accordingly worked the horse as long as I required.

On the 25th February last the Inspector again stopped one of my horses, and threatened the driver with a summons should he bring it out again. I saw the horse ten minutes after it had been stopped, and had it walked for some distance, but without being able to detect the least sign of lameness. Knowing that to employ the local veterinary surgeon on whose advice I had bought the horse, but against whom the inspector evidently had a grudge, would be to invite a summons, I sent again for Mr. W. Next come the following entries in my diary:—

"February 26th.—Inspector tells me the horse is lame in two legs, that he has diseased feet, and that neither Mr. W. nor any one else can make him fit for work. He also sneered at my having purchased on the recommendation of the local veterinary surgeon, saying, 'Ah! you bought that horse on the recommendation of a veterinary, didn't you?'"

The Inspector further said that if I got a veterinary surgeon to pass the horse he would summon him too; but that no veterinary would pay my fine for me.

"February 28th.—Mr. W. says horse is quite fit for our coal work; wants careful shoeing, and should not be put to fast work, as he has rather tender feet."

N.B. The Inspector diagnosed "diseased feet," with shoes on and leather

under them, but Mr. W. thoroughly examined the horse *without* his shoes.

I put the horse into work again on March 2nd, the next working day, and Mr. W. wrote to the Inspector about it. The latter wrote in reply, by way of excusing himself, that the horse was well enough if it had fair work, but that when he stopped it "it had two tons of coal and half a ton of man behind it." Our usual load is one ton, and on the day in question our books show that *the heaviest load taken out all day was* 22 *cwt.* The driver was a small man, weighing perhaps another 120 lbs.

My solicitor now urged me to take proceedings against the Society for damages (vet. fees, loss of time, etc., etc.), but I told him I would wait for a third attack. No doubt this came to the Inspector's ears, for he left me awhile in peace, and took care that the third occasion should arise only when he could promptly vanish out of harm's way.

In May, however, another of my horses—a mare—went slightly lame occasionally when in work, and I at once put her under the local surgeon's care He told me not to keep her in; he thought she was suffering from a slight Rheumatism, and ordered cold water from a hose all down one limb. The following is again from my diary:—

"June 4th.—Inspector stopped mare. I explained that the mare was under the care of the local veterinary surgeon. The Inspector said that he did not care what either the local surgeon or Mr. W. might say, and added that he would lock up the driver if he took the mare out again, but that he would prefer to lock me up, and would do so if I was with the mare next time; also that he ought to lock me up on the present occasion. Upon my telling him that cold water had been ordered, he observed, '*A nice cure that!*' thus throwing discredit upon the treatment ordered. The Inspector also repeated what he had said on the former occasion, as to summonsing the veterinary surgeon as well."

I at once saw my solicitor on the matter, and he advised me to take steps to prevent the recurrence of such annoying and insulting scenes. The threat of arrest, he said, was monstrous in the case of a respectable and substantial person, well known in the town. I said I would give him instructions to act in a day or two.

On June 5th, Mr. W. saw the mare and fully confirmed the treatment prescribed by the local surgeon. That same evening a notice appeared in the paper, to the effect that the Inspector for the R.S.P.C.A. was leaving the town that week, and he, in fact, left for good the following day. No doubt he availed himself of the knowledge that he was on the point of leaving to pour out the vials of his wrath against me; but when sarcasm is employed by a chief in the Society when replying to a gentleman's letter, we must not expect more courteous treatment from their subordinates.

Be it noted that in each of the above cases I was put to much expense and loss of time without just cause, yet the "warnings" given rebounded to the credit of the Society, and were, no doubt, duly published for the encouragement of subscribers under the headings "warnings given," "horses stopped," etc. In fact, the aim of the Society and its officers appears to be *not* so much *to stop cruelty with utmost promptness*, as to get up so many *cases*, and give so many *warnings* more in each year than in preceding records.

The Inspector above referred to told me that, if a case was fought, the Society fought hard too, regardless of expense, and in this way they are able to crush the small men. The country Justice of the Peace leans naturally to the side of the Society; not seeing that such an institution can have any object in bringing actions without thoroughly good reasons; and the small

man has no funds wherewith to appeal, nor does he dare to question the Inspector's "warnings," as I did.

No doubt, the existence of a Horse Owners' Protection Society, which could take up such cases as mine where the R.S.P.C.A. was unduly oppressive, would make the officers of the latter, at least, somewhat more careful in their proceedings.

It only remains for me to say that, throughout my whole acquaintance with the Inspector, I spoke no rough or uncivil word to him, although his behaviour to myself was on the last occasion insolent in the extreme.

"ALPHA."

---

## ANSWERS TO CORRESPONDENTS.

CLARKE BROS.—The advertisement of the person alluded to is clearly an infringement of the law, and he is therefore open to prosecution under the Veterinary Surgeons Act.

W. B.—The subject will be noticed in next month's Journal.

---

## Communications, Books, Journals, etc., Received.

COMMUNICATIONS have been received from P. Moir, Edinburgh; "Condensed"; J. A. Nunn, A.V.D., Lahore; "A Surgeon and Justice of the Peace"; F. Raymond, A.V.D., Woolwich; Professor Williams, Edinburgh; A. Wilson, Newcastle-on-Tyne; W. A. Hill, London; H. G. Rogers, London; G. M. Rayment, A.V.D., Bombay; J. W. Hill, Hastings; "Cynic"; M. Hedley, Dublin; "Alpha"; E. W. Hoare, Cork; Dr. N. Lanzillotti-Buonsanti, Milan; T. Bowhill, Darlington; H. T. Pease, A.V.D., Lahore.

---

BOOKS AND PAMPHLETS: *Professor W. Axe*, Report of an Epidemic of Diphtheria at East Croydon; *P. J. Cadiot*, Traitment Chirurgical du Coruage Chronique; *A. Bouchardat and C. Vignardon*, Nouveau Formulaire Veterinaire; *F. Friedberger and E. Frohner*, Lehrbuch der Klinischen Untersuchungsmethoden fur Tierarzte und Studirende. *A Koch*, Encyklopadie der Gesammten Thierheilkunde und Thierzucht; Bulletin et Memoires de la Societe Cent. de Medecine Veterinaire; Proces-Verbal de l'Academie Royale de Medecine de Belgique; Bulletin des Seances de la Société Nationale d'Agriculture de France.

---

JOURNALS, ETC.: *Thierarzt; Recueil de Méd. Veterinaire; Lancet; Repertorium der Thierheilkunde; Annales de Med. Veterinaire; Echo Veterinaire; Journal de Med. Veterinaire; Journal of Comparative Medicine and Veterinary Archives; British Medical Journal; American Veterinary Review; Moderno Zooiatro; Bacteriological World; Deutsche Zeitschrift fur Thiermedicin und Vergleichende Pathologie; Revue Veterinaire; Edinburgh Medical Journal; Clinica Veterinaria; Live Stock Journal; Mark Lane Express; Field; Archiv fur Wissenschaft. und Praktische Thierheilkunde; Journal of the Royal Agricultural Society.*

---

NEWSPAPERS: *Morning Post; Manchester Courier; Yorkshire Herald; South-Eastern Gazette.*